State of Wyoming

Department of Health

Annual Report on Cancer in Wyoming - 2013

Thomas O. Forslund
Director

September, 2015

State of Wyoming
Department of Health

Annual Report on Cancer in Wyoming—2013

Annual Report on Cancer in Wyoming 2013
is published by the
Public Health Division
Wendy E. Braund, MD, MPH, MSEd, FACPM,
State Health Officer and Senior Administrator

Additional information and copies may be obtained from:
Wyoming Cancer Surveillance Program
6101 Yellowstone Rd., Suite 510
Cheyenne, WY 82002
(307) 777-3477 telephone
(307) 777-3419 fax
http://www.health.wyo.gov/PHSD/wcsp/index.html

This publication was supported by Grant/Cooperative Agreement
Number U58/DP003869-04 from the Centers for Disease Control and Prevention.
Its contents are solely the responsibility of the authors and do not necessarily represent
the official views of the Centers for Disease Control and Prevention

This document is available in alternative format upon request.

Table of Contents

Executive Summary

The incidence of and mortality rates from cancer in Wyoming residents continues to be lower than the U. S. average. The incidence rates for all cancer sites for male, females and total population for all cancers and lung cancer rates were the only rates that were significantly different (lower) from the national rates. The overall incidence rate for all cancer sites combined for Wyoming in 2013 (373.1/100,000) was down from 2012 (395.2/100,000). The overall mortality rate for all cancers in 2013 (145.2/100,000) was also lower than the mortality rate in 2012 (154.3/100,000).

The top five cancer sites for incidence in 2013 were: female breast, prostate, lung/bronchus, colorectal and bladder. The most common cancers for incidence by age group were testis (15-24 years); thyroid (25-34 years); breast cancer (35-59 years); prostate (60-74 years); lung (75-84 years); and breast (85+ years).

The top five cancer sites for mortality were lung, colorectal, breast, ill-defined, and cancer of the pancreas. The most common cancers associated with mortality by age group were breast (45-49 years) and lung cancer (50-85+ years). There were fewer than two deaths per cancer site for all age groups from 0 to 44 years.

The 5-year (60 months) relative survival rate for Wyoming cancer patients diagnoses between 2005– 2013 is quite good at 68.10%. This means that just over sixty-eight percent of all cancer patients in Wyoming were alive five years after diagnosis during this time period. Prostate cancer (95.8%), cancer of the thyroid (95.3%), melanoma (93.0%) and female breast cancer (90.6%) have the highest survival rates among Wyoming residents. The survival rates for cancer of the pancreas (6.9%) and lung cancer (16.5%) are the lowest among Wyoming residents. Additionally, children/adolescents (00-19 years) continue to have an excellent 5-year overall survival rate of 83.2% between 2001 and 2013.

Note: Basal and squamous cell carcinoma, and in situ cervical cancer are not included in the calculation of All Sites Cancer incidence and Mortality rates.

INTRODUCTION

Cancer

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread of abnormal cells is not controlled, death can result. Many cancers are preventable and many can be cured if detected and treated early.

Causes of Cancer

Cancer is caused by both environmental and internal factors. Environmental causes include exposures to chemicals, radiation, or viruses, as well as exposures associated with lifestyles (e.g., smoking, diet, and alcohol consumption). Internal causes include hormone levels, immune status, and inherited conditions. Causal factors may act together or in sequence to start or promote cancer. Ten or more years often pass between carcinogenic exposures and detectable cancer.

Prevention

Avoiding potential exposures such as tobacco use, severe sun exposure, and excessive dietary fat may prevent the onset or promotion of cancer. Also, increasing beneficial practices such as eating five servings of fruit or vegetables every day may help to prevent cancer. Early detection and treatment of cancer through established screening practices such as mammography, prostate specific antigen (PSA), and colorectal screening improves the survival rates and decreases mortality.

Wyoming Cancer Surveillance Program

Cancer is a reportable disease in Wyoming. State statute requires that physicians, hospitals and laboratories report all cases of cancer they diagnose or treat in Wyoming to the Cancer Surveillance Program (WCSP), which serves as the state's central cancer registry. The purpose of the registry is to gather data to determine cancer incidence, mortality, treatment, and survival in Wyoming. Through special interstate agreements, information on Wyoming residents diagnosed or treated in other states is included in the program's database.

Insuring accurate data is one of the most important roles of the cancer registry. The WCSP established procedures for both automated and manual methods of checking the quality of data. The data is stored in the Rocky Mountain Cancer Data Systems software which has a built-in system to immediately check data when a new case is entered into the database. Each case submitted is reviewed for accuracy and completeness in compliance with data collection standards from the National Program of Cancer Registries and the American College of Surgeons.

The data is used by a variety of medical professionals and others concerned about cancer. Within the Wyoming Department of Health (WDH), the data is used to monitor early detection, to determine year-to-year trends that develop and to determine how Wyoming compares to the rest of the nation. The WDH uses the data to plan and evaluate the effectiveness of its cancer control programs such as the Breast and Cervical Cancer Early Detection Program, and the Wyoming Colorectal Cancer Screening Program. Outside of the WDH, the data is used by physicians, hospital administrators, legislators, non-profit organizations, and the general public. Anyone with a concern about cancer or who would like more information about cancer in a community, should call the Wyoming Cancer Surveillance Program's Epidemiologist at 307-777-8654. Written correspondence should be addressed to 6101 Yellowstone Rd., Suite 510, Cheyenne, WY 82002. Information is also available at: http://www.health.wyo.gov/PHSD/wcsp/index.html .

METHODOLOGY and DEFINITIONS

Data Sources

Incidence

Definition -- Incidence is defined as the number of *new* cases diagnosed during a set time period in a defined population. Incidence is not a representation of risk. The defined time period for this report is 2013 except for the 12-year incidence trend, which used 3-year averages (e.g., 01-03 for 2002 or 05-07 for 2006). The defined population is the state of Wyoming, counties, and Cancer Health Districts (CHD) (see page 13).

Wyoming Data -- The Wyoming Cancer Surveillance Program (WCSP) gathers data on Wyoming residents diagnosed and treated for invasive and in situ tumors. The data is sent to the program's registry by every hospital in the state. Data is also collected from pathology laboratories, clinics, and physician offices throughout the state. The registry has several data exchange agreements with other state registries to enable collection of data on Wyoming residents diagnosed and/or treated outside of Wyoming. Wyoming data for this report includes 2013 cancer cases of Wyoming residents received by WCSP as of June 1, 2015.

National Data -- The National Cancer Institute (NCI) updates cancer statistics annually in a publication called the SEER Cancer Review, also available on SEER STAT, an interactive CD-ROM. NCI monitors cancer statistics to assess progress and to identify population subgroups and geographic areas where cancer control efforts need to be concentrated. Cancer incidence rates are calculated using SEER (Surveillance, Epidemiology, and End Results) software. WCSP used SEER*STAT for this report. **The national SEER rates presented in this report were calculated using 2012 data for whites.** See Appendix A for reference source.

Mortality

Definition -- Mortality is defined as the number of persons who have died during a set time period in a defined population. The time period for this report is the calendar year 2013 for Wyoming rates. The defined population is the state of Wyoming, counties, and Cancer Health Districts (see page 13).

Wyoming Data -- Mortality data is derived from death certificates filed with Wyoming Vital Records Services. By state statute, the certification of the cause of death on the death certificate is completed by the attending physician or by the coroner with the assistance of a physician. Although a number of medical conditions may be listed on the certificate, statistics presented here are based solely on the underlying cause of death. This is defined as the disease or injury that initiated the sequence of events leading directly to death or as the circumstances of the accident or violence that produced the fatal injury. The primary underlying cause is selected and classified based upon the regulations of the World Health Organization.

National Data -- The National Center for Health Statistics (NCHS), a division of the U.S. Centers for Disease Control and Prevention (CDC), provides statistical information including the number of cancer deaths in the United States. United States cancer mortality data is available from SEER STAT, an interactive CD-ROM. WCSP used SEER STAT for this report. **The national SEER rates presented in this report were calculated using 2012 data for whites.** See Appendix A for reference source.

Population

Wyoming Data -- Population estimates for Wyoming state and counties were obtained from the Wyoming Department of Administration and Information - Economic Analysis Division. Population data for 2013 by sex, age, race, and Hispanic origin. Because cancer rates are calculated by dividing the number of cancer cases by a census-generated denominator, rates can be heavily influenced by changes or uncertainties in census counts.

Rates

Age-Adjusted Incidence Rates

Incidence rates include 2013 invasive cases of Wyoming residents, except for bladder cancer which also includes in situ cases. Incidence rates presented are calculated for total cases and separately for males and females. The incidence rates are age-adjusted to the 2000 U.S. standard population using 5-year age groups, and are per 100,000 population. Age-adjustment allows rates to be compared over different time frames and allows rates from one geographic area to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.

In conformity with the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program guidelines, the incidence rates excluded the following:

- in situ cases
- basal and squamous cell skin cancer
- cases with unknown age
- cases with unknown gender

Age-Adjusted Mortality Rates

Mortality rates presented are calculated for total cases and separately for males and females. The mortality rates are age-adjusted to the 2000 U.S. standard population using 5-year age groups and are per 100,000 population. Age-adjustment allows rates to be compared over different time frames and allows rates from one geographic area to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.

Age-Specific Incidence Rates

An age-specific rate is the rate of cancer found within a certain age group. Age-specific incidence rates were calculated using 5-year age groups and total population (both genders combined). They are reported per 100,000 population.

Statistical Significance

Z-Statistic

A Z-statistic is used to compare two different rates. This is defined as "the difference between two population proportions." Statistical significance was found if the calculated Z-statistic was found to be greater than 1.65. This provides the equivalence of a 95% confidence interval (see below) and is indicated in the report as "statistically significant" or "significant." The formula used can be found in most statistics books or by calling the WDH Chronic Disease Epidemiologist at (307) 777-8654.

Confidence Intervals

A confidence interval indicates the confidence level in the accuracy of a cancer rate. For example, if you calculate a cancer rate for a particular year as 130 cases per 100,000 people, with a confidence interval of 120 to 140 cases per 100,000, this means that you are 95% sure that the rate of cancer for that particular year lies somewhere between 120 to 140 cases per 100,000 people. The rate of 130 cases may in fact be correct, but you have more confidence that the "true" rate lies between 120 to 140 cases.

Confidence intervals are also used as a way to test statistical significance. If the confidence intervals of two different rates overlap one another, then there is no difference between the two rates. However, if the confidence intervals do not overlap one another, there is statistical significance. This is indicated in the report by the terms "statistically significant" or "significant."

Staging

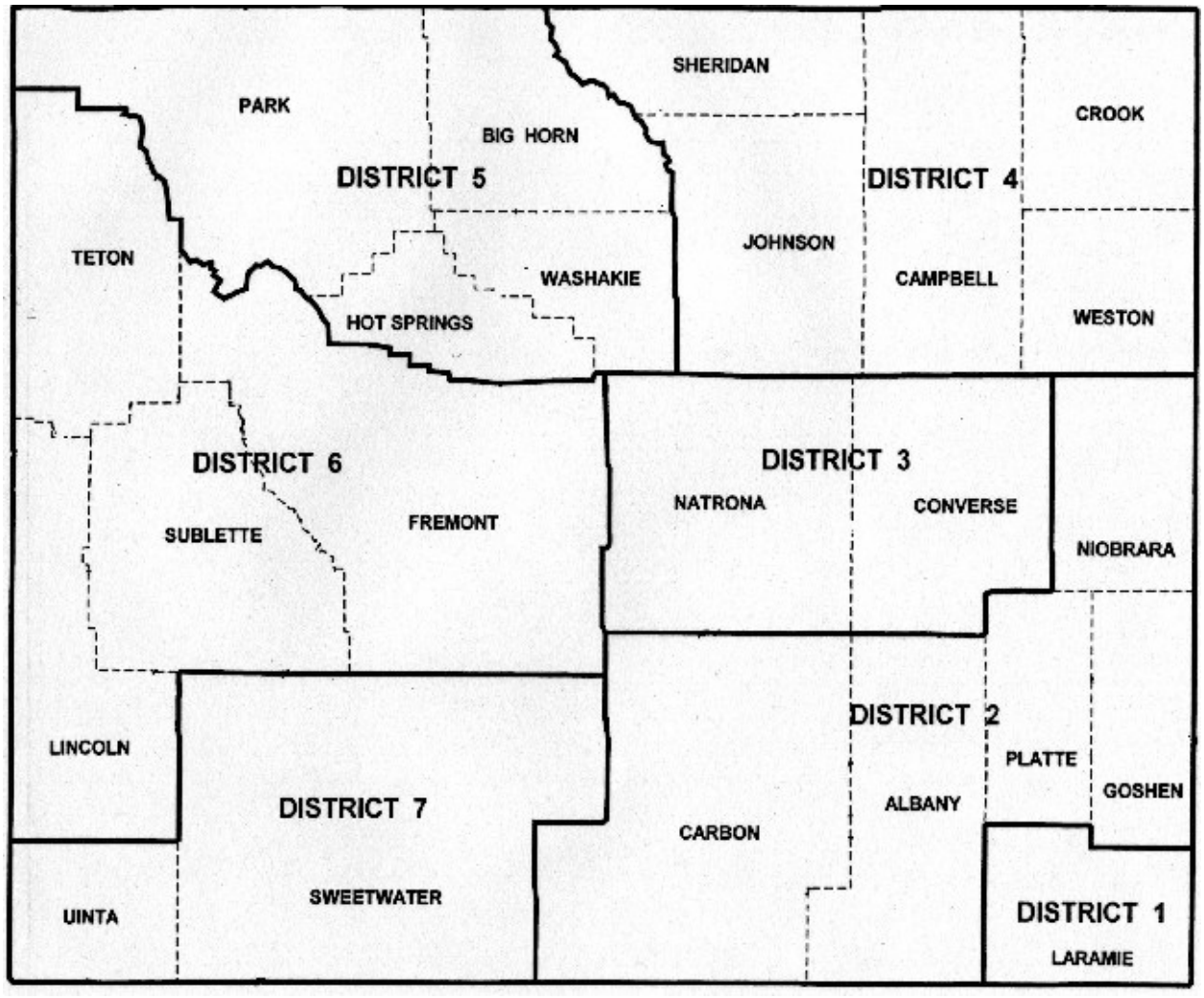
In Situ	cancer has not invaded the organ.
Local Stage	cancer has invaded the organ of origin.
Regional Stage	cancer has invaded beyond the organ of origin by direct extension to adjacent organs/tissues and/or regional lymph nodes.
Distant Stage	direct extension beyond adjacent organs or tissues or metastases to distant site(s) or distant lymph nodes.
Unstaged	extent of disease or primary site cannot be determined.

Note: Starting in 2004, the WCSP and other cancer registries belonging to the National Data Standard setters adopted and began using the Collaborative Staging Method for staging cancer cases. This method utilizes a new type of algorithm that provides more information concerning the size and extent of the cancer, as well as the number of nodes involved.

Cancer Health District

Cancer Health Districts (CHDs) were chosen based on geographic location, similarities in geography and by population size. Also taken into consideration were areas of the state that are routinely grouped for data requests and/or cancer cluster studies. This created seven CHDs that were similar in population size thereby eliminating some of the discrepancies in rate calculations that are caused from population size differences. CHDs are used when county data is too sparse to calculate accurate rates.

CHD 1 Laramie County
CHD 2 Albany County, Carbon County, Goshen County, Niobrara County, Platte County
CHD 3 Converse County, Natrona County
CHD 4 Campbell County, Crook County, Johnson County, Sheridan County, Weston County
CHD 5 Big Horn County, Hot Springs County, Park County, Washakie County
CHD 6 Fremont County, Lincoln County, Sublette County, Teton County
CHD 7 Sweetwater County, Uinta County



State of Wyoming - 2013

Cancer Incidence and Mortality by Gender and Age (All Sites)
Cancer Incidence and Mortality by Race and Ethnicity (Top 15 Sites)

Wyoming Incidence[1] for 2013: Cases by Gender and Age (All Sites)

	Male	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	5	7	12	0	0	0	0	0	0	0
Bladder w/ in situ	100	20	120	0	0	0	0	0	0	0
Bones and Joints	2	1	3	0	1	1	0	0	0	0
Brain	19	13	32	0	0	1	0	1	0	3
Breast	8	342	350	0	0	0	0	0	1	5
Cervix	0	15	15	0	0	0	0	0	3	1
Colorectal	120	88	208	0	0	0	0	0	0	1
Esophagus	27	3	30	0	0	0	0	0	0	0
Eye	5	2	7	1	0	1	0	0	0	0
Gallbladder	1	7	8	0	0	0	0	0	0	0
Hodgkin	8	4	12	0	0	0	3	1	2	1
Ill-Defined	55	56	111	0	0	0	0	1	0	2
Kidney	61	25	86	2	0	0	0	0	1	1
Larynx	16	5	21	0	0	0	0	0	0	0
Leukemia	49	22	71	0	0	0	0	0	0	1
Liver	25	10	35	0	0	0	0	0	0	0
Lung	133	121	254	0	0	0	0	0	0	0
Melanoma	72	53	125	0	0	0	0	2	3	2
Myeloma	23	14	37	0	0	0	0	0	0	0
Nasal	0	2	2	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	56	54	110	0	0	0	0	1	1	2
Oral Cavity	46	13	59	0	0	0	0	0	0	0
Other Biliary	7	3	10	0	0	0	0	0	1	0
Other Digestive	3	6	9	1	0	0	0	0	0	0
Other Endocrine	3	0	3	0	0	0	0	0	0	0
Other Female	0	16	16	0	0	0	0	0	0	0
Other Male	1	0	1	0	0	0	0	0	0	0
Other Skin	13	4	17	0	0	0	0	0	0	1
Other Respiratory	1	0	1	1	0	0	0	0	0	0
Other Urinary	2	1	3	0	0	0	0	0	0	0
Ovary	0	27	27	0	1	0	0	0	0	0
Pancreas	38	28	66	0	0	0	0	0	0	0
Prostate	338	0	338	0	0	0	0	0	0	0
Small Intestine	10	6	16	0	0	0	0	0	0	0
Soft Tissue including Heart	9	9	18	0	0	0	1	0	0	0
Stomach	21	8	29	0	0	0	0	0	0	0
Testis	31	0	31	0	0	0	3	4	3	3
Thyroid	23	68	91	0	0	2	0	1	8	7
Uterine	0	69	69	0	0	0	0	0	0	4
Mesothelioma	4	0	4	0	0	0	0	0	0	0
All Sites	1,335	1,122	2,457	5	2	5	7	11	23	34

[1] See page 10 for a definition of incidence.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	1	0	1	2	2	1	1	3	1	0	0
Bladder w/ in situ	1	1	4	1	4	16	29	20	15	14	15
Bones and Joints	0	0	0	0	0	0	1	0	0	0	0
Brain	0	1	4	4	4	3	5	1	5	0	0
Breast	7	22	19	32	52	49	61	32	32	17	21
Cervix	1	2	1	1	1	2	1	0	1	1	0
Colorectal	1	6	7	23	28	25	29	28	23	25	12
Esophagus	0	0	1	0	3	7	8	5	1	2	3
Eye	0	1	0	0	0	0	1	1	0	0	2
Gallbladder	0	1	0	0	1	0	0	1	2	1	2
Hodgkin	0	0	0	1	0	1	0	0	2	1	0
Ill-Defined	1	1	5	4	3	13	14	17	18	18	14
Kidney	1	4	6	9	22	6	11	8	6	9	0
Larynx	0	1	0	3	4	4	2	5	1	0	1
Leukemia	1	1	2	3	7	9	16	7	11	9	4
Liver	0	1	0	2	9	9	7	3	1	1	2
Lung	1	0	5	16	30	37	43	45	34	26	17
Melanoma	4	5	0	12	14	14	20	18	13	11	7
Myeloma	0	1	1	3	5	5	5	11	1	1	4
Nasal	0	0	0	0	0	0	0	0	0	1	1
Non-Hodgkin Lymphoma	2	2	6	7	15	13	15	13	11	10	12
Oral Cavity	1	2	4	7	14	8	10	5	3	3	2
Other Biliary	0	0	0	0	0	1	3	2	2	1	0
Other Digestive	0	0	0	1	3	1	0	1	1	1	0
Other Endocrine	0	0	1	0	0	1	0	1	0	0	0
Other Female	0	0	1	2	0	3	3	1	2	3	1
Other Male	0	0	0	0	0	0	1	0	0	0	0
Other Skin	0	0	2	0	1	3	3	0	4	3	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	1	0	0	1	0	0	1	0
Ovary	0	1	2	5	4	5	2	2	2	1	2
Pancreas	0	1	2	5	8	11	15	5	7	7	5
Prostate	0	1	2	17	37	83	86	52	27	17	16
Small Intestine	0	0	0	1	2	1	6	2	1	2	1
Soft Tissue including Heart	0	1	1	1	6	1	1	2	3	1	0
Stomach	1	0	0	2	2	6	4	3	4	3	4
Testis	6	4	4	1	1	2	0	0	0	0	0
Thyroid	4	7	8	11	16	9	11	4	2	1	0
Uterine	1	2	5	12	10	10	9	5	6	2	3
Mesothelioma	0	0	0	0	0	0	0	2	0	1	1
All Sites	34	69	94	189	308	359	424	305	242	194	152

Wyoming Mortality[1] for 2013: Deaths by Gender and Age (All Sites)

	Male	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	0	0	0	0	0	0	0	0	0	0
Bladder w/ in situ	21	4	25	0	0	0	0	0	0	0
Bones and Joints	3	0	3	0	0	0	0	0	0	0
Brain	9	15	24	1	0	0	0	0	0	1
Breast	2	72	74	0	0	0	0	0	1	0
Cervix	0	5	5	0	0	0	0	0	1	0
Colorectal	45	31	76	0	0	0	0	0	0	0
Esophagus	23	5	28	0	0	0	0	0	0	0
Eye	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	6	6	0	0	0	0	0	0	0
Hodgkin	1	0	1	0	0	0	1	0	0	0
Ill-Defined	37	34	71	0	0	0	0	0	0	0
Kidney	10	6	16	0	0	0	0	0	0	0
Larynx	5	1	6	0	0	0	0	0	0	0
Leukemia	29	31	60	0	1	0	0	0	0	1
Liver	20	12	32	0	0	0	0	0	0	0
Lung	128	98	226	0	0	0	0	0	1	0
Melanoma	13	2	15	0	0	0	0	0	1	1
Myeloma	15	8	23	0	0	0	0	0	0	0
Nasal	1	0	1	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	22	20	42	0	0	0	0	0	0	1
Oral Cavity	4	3	7	0	0	0	0	0	0	0
Other Biliary	6	4	10	0	0	0	0	0	0	0
Other Digestive	4	2	6	0	0	0	0	0	0	0
Other Endocrine	0	1	1	0	0	0	0	0	0	0
Other Female	0	5	5	0	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0
Other Skin	4	3	7	0	0	0	0	0	0	0
Other Respiratory	0	0	0	0	0	0	0	0	0	0
Other Urinary	1	1	2	0	0	0	0	0	0	0
Ovary	0	19	19	0	0	0	0	0	0	0
Pancreas	33	31	64	0	0	0	0	0	0	0
Prostate	40	0	40	0	0	0	0	0	0	0
Small Intestine	1	1	2	0	0	0	0	0	0	0
Soft Tissue including Heart	4	1	5	0	0	0	0	0	0	0
Stomach	7	4	11	0	0	0	0	0	0	1
Testis	1	0	1	0	0	0	0	0	1	0
Thyroid	0	1	1	0	0	0	0	0	0	0
Uterine	0	6	6	0	0	0	0	0	0	0
Mesothelioma	5	1	6	0	0	0	0	0	0	0
All Sites	494	433	927	1	1	0	1	0	5	5

[1]See page 10 for definition of mortality.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	0	0	0	0	0	0	0	0	0	0
Bladder w/ in situ	0	0	0	1	0	3	3	4	5	3	6
Bones and Joints	0	0	0	1	1	0	1	0	0	0	0
Brain	2	0	3	3	2	2	2	3	3	2	0
Breast	0	0	2	2	10	8	10	12	11	7	11
Cervix	0	0	0	2	2	0	0	0	0	0	0
Colorectal	1	1	2	7	5	8	12	8	5	16	11
Esophagus	0	0	2	1	3	6	4	4	3	3	2
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	0	0	1	1	1	0	1	0	2	0
Hodgkin	0	0	0	0	0	0	0	0	0	0	0
Ill-Defined	0	0	1	3	9	6	6	11	8	11	16
Kidney	0	0	0	1	4	2	2	2	2	1	2
Larynx	0	0	0	1	1	1	1	1	0	0	1
Leukemia	0	1	0	0	3	7	9	9	8	7	14
Liver	0	0	0	3	4	6	5	2	5	3	4
Lung	0	0	2	14	15	31	25	50	34	30	24
Melanoma	0	0	1	0	1	2	3	2	1	1	2
Myeloma	0	0	0	0	2	3	1	4	5	3	5
Nasal	0	0	0	1	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	0	0	0	0	1	3	6	3	9	6	13
Oral Cavity	0	0	1	2	1	1	1	0	1	0	0
Other Biliary	0	1	0	1	0	2	0	3	1	0	2
Other Digestive	0	0	0	0	1	0	1	2	0	0	2
Other Endocrine	0	1	0	0	0	0	0	0	0	0	0
Other Female	0	0	0	0	0	1	1	0	0	1	2
Other Male	0	0	0	0	0	0	0	0	0	0	0
Other Skin	0	0	0	0	0	0	0	2	1	2	2
Other Respiratory	0	0	0	0	0	0	0	0	0	0	0
Other Urinary	0	0	0	1	0	0	0	0	0	0	1
Ovary	0	0	0	0	3	1	5	2	4	1	3
Pancreas	0	0	1	3	6	11	10	6	10	6	11
Prostate	0	0	0	3	1	0	2	6	7	10	11
Small Intestine	0	0	0	0	0	0	0	0	0	2	0
Soft Tissue including Heart	0	0	0	0	1	1	0	1	1	0	1
Stomach	0	0	0	0	1	1	1	0	3	1	3
Testis	0	0	0	0	0	0	0	0	0	0	0
Thyroid	0	0	0	0	0	0	0	0	0	0	1
Uterine	0	1	0	0	0	0	0	0	2	1	2
Mesothelioma	0	0	0	0	0	0	1	0	2	2	1
All Sites	3	5	15	51	78	107	112	138	131	121	153

Wyoming Incidence for 2013: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic/Latino
All Sites	2,457	2,412	10	24	10	1	70
Bladder	120	120	0	0	0	0	4
Brain	32	32	0	0	0	0	0
Breast (Female)	350	340	2	4	4	0	3
Colorectal	208	203	0	5	0	0	12
Kidney	86	84	0	1	1	0	2
Leukemia	71	67	1	1	2	0	2
Lung	254	253	0	1	0	0	5
Melanoma	125	125	0	0	0	0	1
Non-Hodgkin Lymphoma	110	109	0	1	0	0	1
Oral Cavity	59	59	0	0	0	0	1
Ovary	27	27	0	0	0	0	2
Pancreas	66	66	0	0	0	0	2
Prostate	338	334	2	2	0	0	10
Thyroid	91	90	1	0	0	0	5
Uterine	69	66	0	0	2	1	2

Wyoming Mortality for 2013: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic/Latino
All Sites	927	900	6	15	2	4	28
Bladder	25	25	0	0	0	0	1
Brain/CNS	24	24	0	0	0	0	0
Breast (Female)	74	73	1	0	0	0	0
Colorectal	76	73	0	2	0	1	3
Kidney	16	16	0	0	0	0	1
Leukemia	60	58	1	1	0	0	1
Lung	226	220	1	3	0	2	9
Melanoma	15	15	0	0	0	0	0
Non-Hodgkin Lymphoma	42	41	0	1	0	0	0
Oral Cavity	7	7	0	0	0	0	0
Ovary	19	19	0	0	0	0	0
Pancreas	64	63	0	1	0	0	0
Prostate	40	38	0	2	0	0	2
Thyroid	1	1	0	0	0	0	0
Uterine	6	6	0	0	0	0	0

State of Wyoming - 2013

Top Cancer Sites by Gender and Age - Incidence and Mortality

Top Incidence Cancer Sites by Gender - 2013

Total		Male		Female	
Breast	350	Prostate	338	Breast	342
Prostate	338	Lung	133	Lung	121
Lung	254	Colorectal	120	Colorectal	88
Colorectal	208	Bladder	100	Uterine	69
Bladder	120	Melanoma	72	Thyroid	68

Top Incidence Sites by Age (Case count included only if more than 2 cases per cancer)

0-4		5-9		10-14		15-19		20-24	
Each cancer site has less than 3 cases		Each cancer site has less than 3 cases		Each cancer site has less than 3 cases		Testis	3	Testis	4
25-29		**30-34**		**35-39**		**40-44**		**45-49**	
Thyroid	8	Thyroid	7	Breast	7	Breast	22	Breast	19
Cervix	3	Breast	5	Testis	6	Thyroid	7	Thyroid	8
Testis	3	Uterine	4	Melanoma	4	Colorectal	6	Colorectal	7
		Brain/CNS	3	Thyroid	4	Melanoma	5	Non-Hodgkin	6
		Testis	3					Uterine	5
50-54		**55-59**		**60-64**		**65-69**		**70-74**	
Breast	32	Breast	52	Prostate	83	Prostate	86	Prostate	52
Colorectal	23	Prostate	37	Breast	49	Breast	61	Lung	45
Prostate	17	Lung	30	Lung	37	Lung	43	Breast	32
Lung	16	Colorectal	28	Colorectal	25	Colorectal	29	Colorectal	28
		Kidney	22	Bladder	16	Bladder	29	Bladder	20
75-79		**80-84**		**85+**					
Lung	34	Lung	26	Breast	21				
Breast	32	Colorectal	25	Lung	17				
Prostate	27	Ill-Defined	18	Prostate	16				
Colorectal	23	Breast	17	Bladder	15				
Ill-Defined	18	Prostate	17	Ill-Defined	14				

Top Mortality Cancer Sites by Gender - 2013

Total		Male		Female	
Lung	226	Lung	128	Lung	98
Colorectal	76	Colorectal	45	Breast	72
Breast	74	Prostate	40	Ill-Defined	34
Ill-Defined	71	Ill-Defined	37	Colorectal, Leukemia, and Pancreas	31 (each)
Pancreas	64	Pancreas	33		

Top Mortality Sites by Age (Mortality count included only if 2 or more cases per cancer)

0-4		5-9		10-14		15-19		20-24	
Each cancer site has less than 2 deaths		Each cancer site has less than 2 deaths		Each cancer site has less than 2 deaths		Each cancer site has less than 2 deaths		Each cancer site has less than 2 deaths	
25-29		**30-34**		**35-39**		**40-44**		**45-49**	
Each cancer site has less than 2 deaths		Each cancer site has less than 2 deaths		Brain/CNS	2	All Cancers have 1 or less death		Brain/CNS	3
								Breast	2
								Colorectal	2
								Esophagus	2
								Lung	2
50-54		**55-59**		**60-64**		**65-69**		**70-74**	
Lung	14	Lung	15	Lung	31	Lung	25	Lung	50
Colorectal	7	Breast	10	Pancreas	11	Colorectal	12	Breast	12
Brain/CNS	3	Ill-Defined	9	Breast	8	Breast	10	Ill-Defined	11
Pancreas	3	Pancreas	6	Colorectal	8	Pancreas	10	Leukemia	9
Prostate	3	Colorectal	5	Leukemia	7	Leukemia	9	Colorectal	8
75-79		**80-84**		**85+**					
Lung	34	Lung	30	Lung	24				
Breast	11	Colorectal	16	Leukemia	14				
Pancreas	10	Prostate	10	Non-Hodgkin	13				
Non-Hodgkin	9	Breast	7	Breast, Colorectal, Pancreas, Prostate	11 (each)				
Leukemia	8	Leukemia	7						

Relative Survival Rates State of Wyoming
2005-2013
All Sites and Top 15 Cancers

Relative Survival by Cancer Type: 2005-2013 (All Ages Combined)

	12 Months	24 Months	36 Months	48 Months	**60 Months**
All Sites	82.30%	75.90%	72.50%	70.00%	**68.10%**
Bladder w/in situ	91.20%	84.30%	82.50%	78.30%	**74.20%**
Brain/CNS	59.60%	44.00%	39.30%	33.50%	**29.20%**
Breast (Female)	97.40%	95.70%	93.50%	92.00%	**90.60%**
Colorectal	83.60%	74.20%	68.20%	63.70%	**60.80%**
Kidney	88.20%	80.50%	76.70%	72.90%	**68.50%**
Leukemia	76.30%	70.00%	65.10%	61.20%	**58.10%**
Lung	43.30%	27.00%	21.90%	18.70%	**16.50%**
Melanoma	98.80%	96.40%	95.50%	93.40%	**93.00%**
Non Hodgkin	83.70%	79.00%	78.00%	74.50%	**72.80%**
Oral Cavity	88.10%	78.50%	71.10%	67.70%	**61.20%**
Ovary	77.30%	66.10%	53.40%	48.50%	**42.50%**
Pancreas	30.60%	18.20%	10.50%	7.50%	**6.90%**
Prostate	99.80%	99.80%	99.40%	98.90%	**95.80%**
Thyroid	97.10%	96.90%	96.10%	95.70%	**95.30%**
Uterine	94.00%	91.05	87.30%	86.40%	**83.20%**

Relative Survival by Cancer Type: 2001-2013 (Ages 00-19 years old)

	12 Months	24 Months	36 Months	48 Months	**60 Months**
All Sites	92.40%	88.70%	88.20%	86.20%	**83.20%**
Bone & Joint	100.0%	84.70%	84.70%	67.80%	**58.80%**
Brain	82.20%	73.80%	73.80%	68.60%	**62.60%**
Hodgkin Lymphoma	96.60%	96.60%	96.60%	96.60%	**96.60%**
Leukemia	91.90%	87.60%	87.60%	87.60%	**81.80%**
Melanoma	83.40%	83.40%	83.40%	83.40%	**83.40%**
Non-Hodgkin	92.90%	85.80%	85.80%	85.80%	**85.80%**
Testis	100%	100%	100%	100%	**100%**

Note: Recurrent percentages across months are partly due to low numbers of cases in this age-group

Relative Survival: is a net survival measure representing cancer survival in the absence of other causes of death. It is defined as the ratio of the proportion of observed survivors in a cohort of cancer patients to the proportion of expected survivors in a comparable set of cancer-free individuals for a specific time period.

5-Year Survival: A 5-year (60 months) survival rate is important when discussing cancer because a person who is diagnosed with cancer (e.g., breast cancer) is considered "cured" if they can survive five years after treatment and they are found to have no other cancer. This does not mean that they may not develop another cancer after five years or even have a reoccurrence, but for that initial diagnosis they are considered "cured."

Stage: Many factors play a part in the survival of a cancer patient including the stage at which the cancer is detected. Having a cancer diagnoses at an early stage (e.g., local or Stage I) generally results in a better survival prognosis that a cancer detected in its later stages (e.g., distant or Stage IV).

Summary of
All Cancer Sites Combined
and
Top 15 Sites

2013 Wyoming Incidence and Mortality Rates

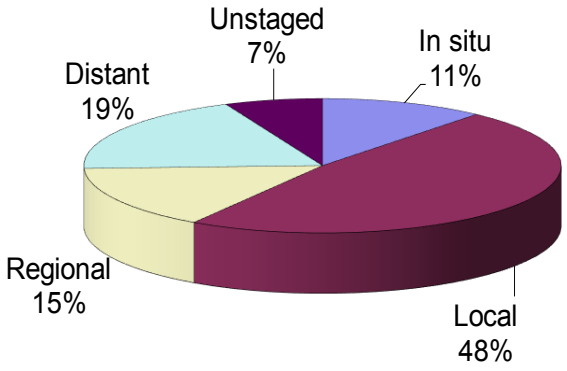
All Cancer Sites

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	1,282	1,111	2,393
# In situ Cases	157	145	302
WY Incidence	415.7*	338.1*	373.1*
US Incidence	483.5	419.0	444.3
# Cancer Deaths	494	433	927
WY Mortality	170.9	126.5	145.2
US Mortality	199.9	142.1	166.4

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



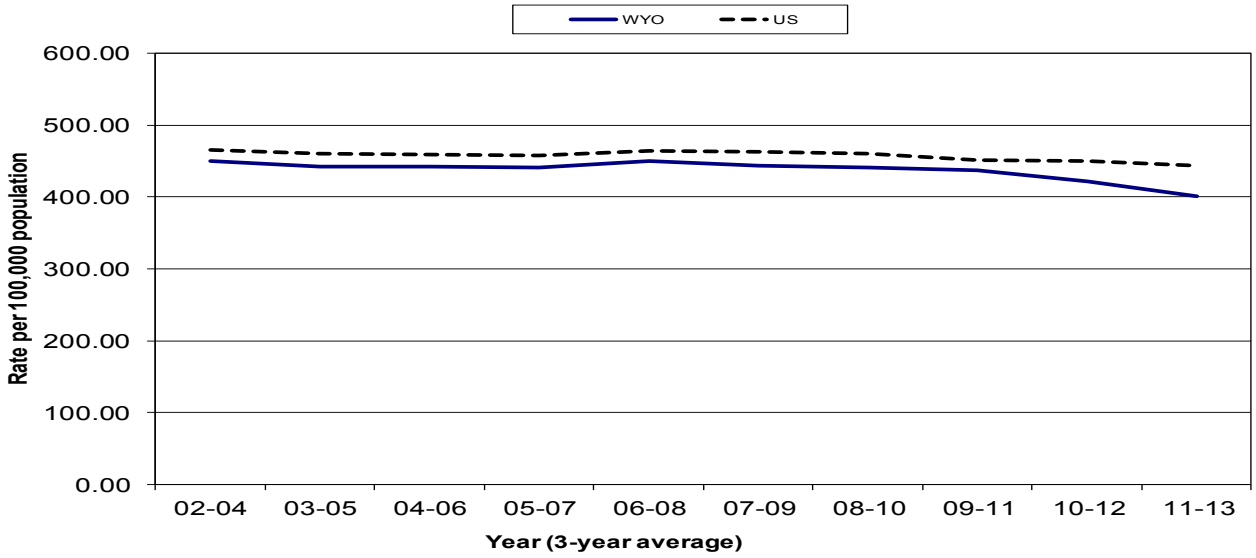
The incidence rates for Wyoming's total population, males, and females were significantly lower than the United States rates for 2013. The mortality rates for total population, males and females were all lower than the United States mortality, though none were statistically significant.

The 12-year incidence trend for Wyoming continues a modest decline that started in 09-11, while the U.S. trend appears steady.

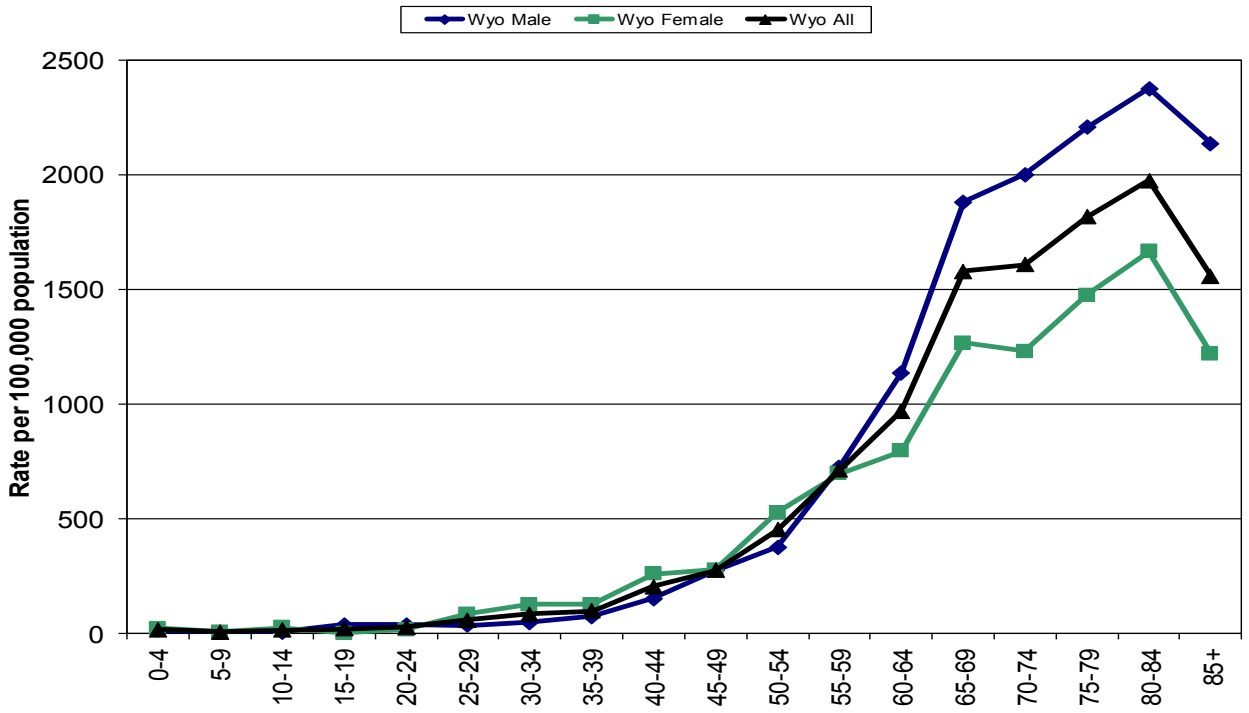
There were no significant changes in the percentages of cancer diagnosed at each stage from 2012 to 2013. Nearly 60% of Wyoming cases are diagnosed at the In situ or Local stage which is considered to be "early" and more curable than cancers diagnosed at the "late" (regional, distant) stage.

There were no significant differences between CHD rates for incidence or mortality.

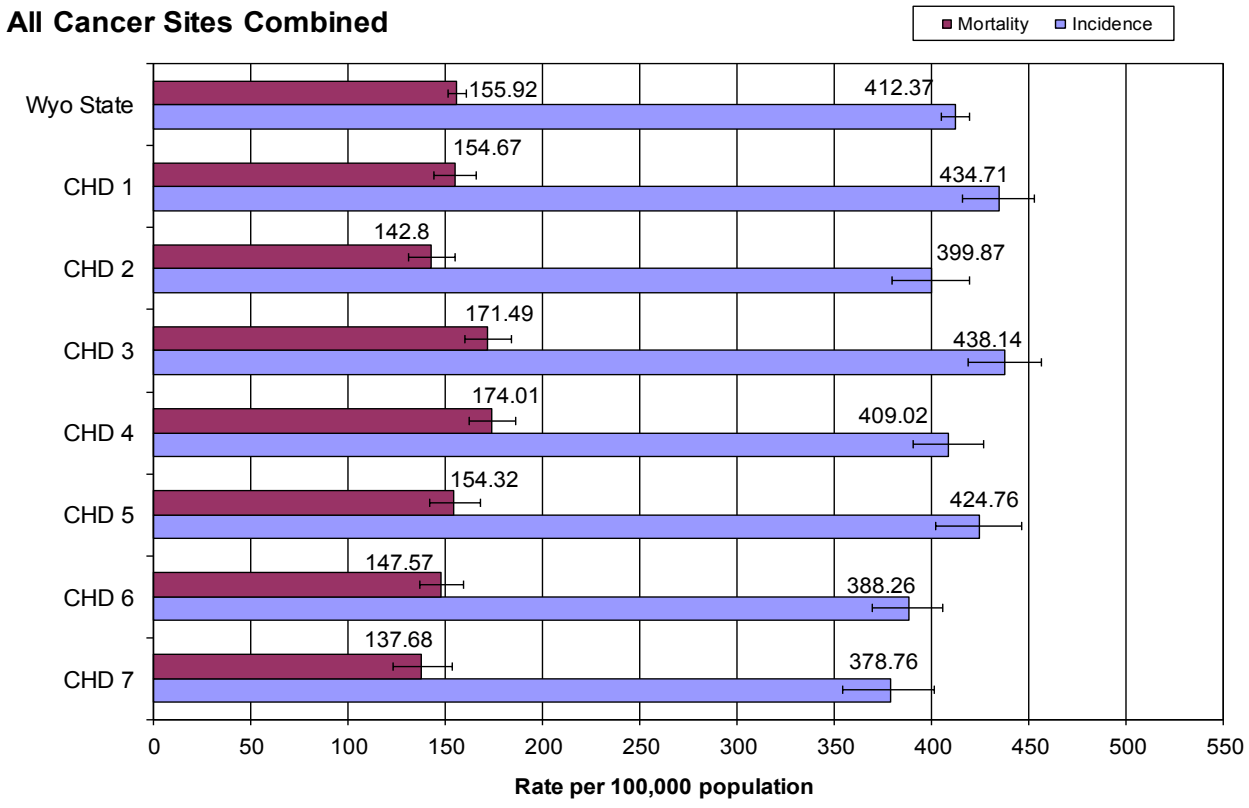
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



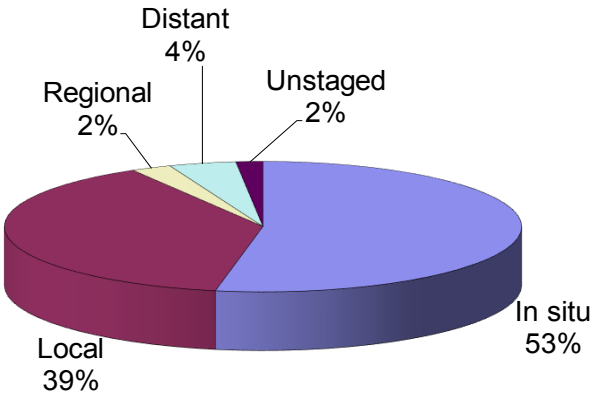
Bladder (Urinary)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	100	20	120
# In situ Cases	53	11	64
WY Incidence	33.3	5.9	18.6
US Incidence	38.2	9.3	21.9
# Cancer Deaths	21	4	25
WY Mortality	7.5	1.1	4.0
US Mortality	8.1	2.2	4.6

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



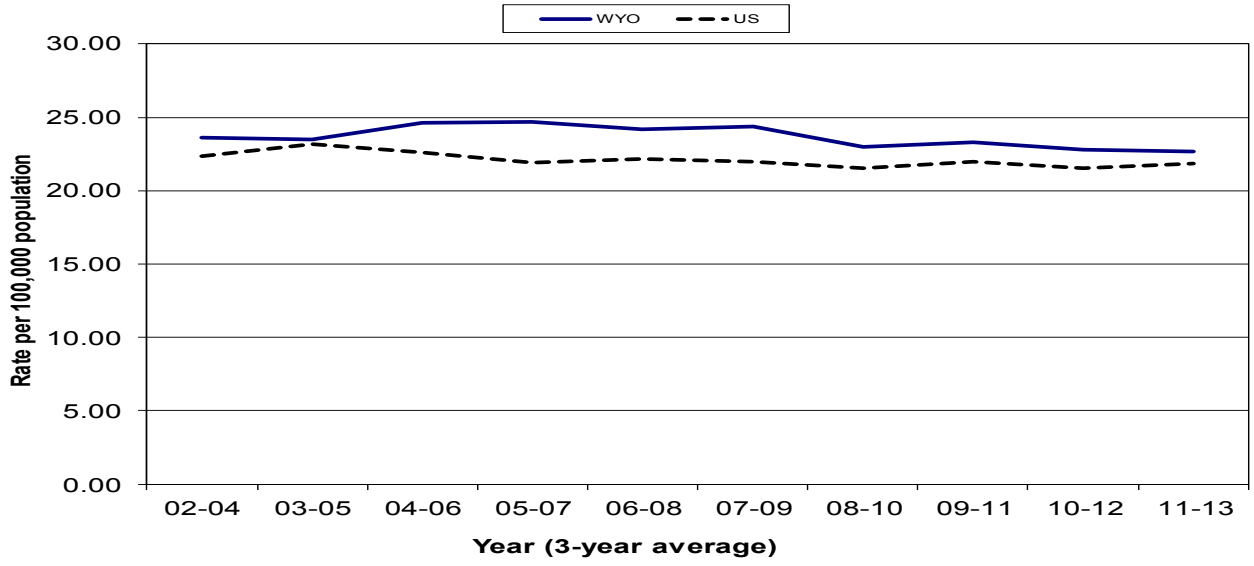
The incidence and mortality rates in Wyoming for bladder cancer in males, females and total population were all lower than the national rates in 2013, though not statistically significant.

The 12-year incidence trend for bladder cancer in Wyoming remains level; whereas, the national rate seems to indicate a slight increase from 10-12 to 11-13.

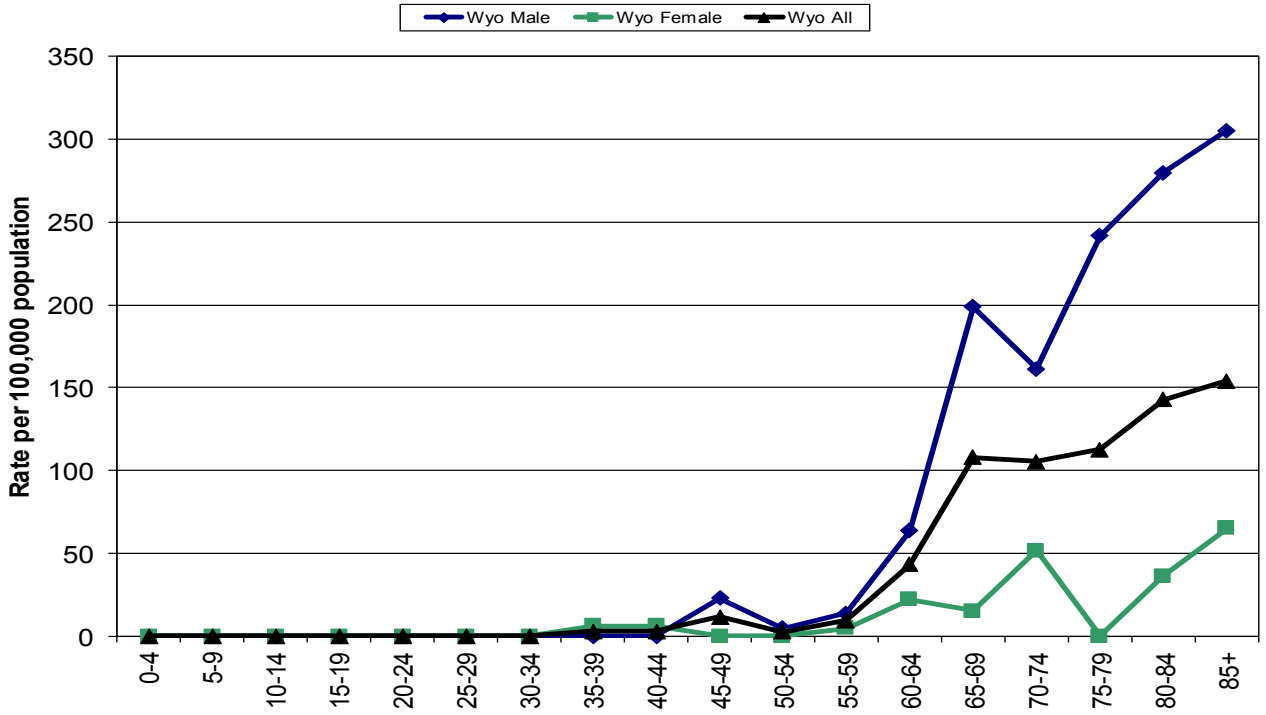
The percent of bladder cancers diagnosed at each stage in 2013 were nearly identical to 2012.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

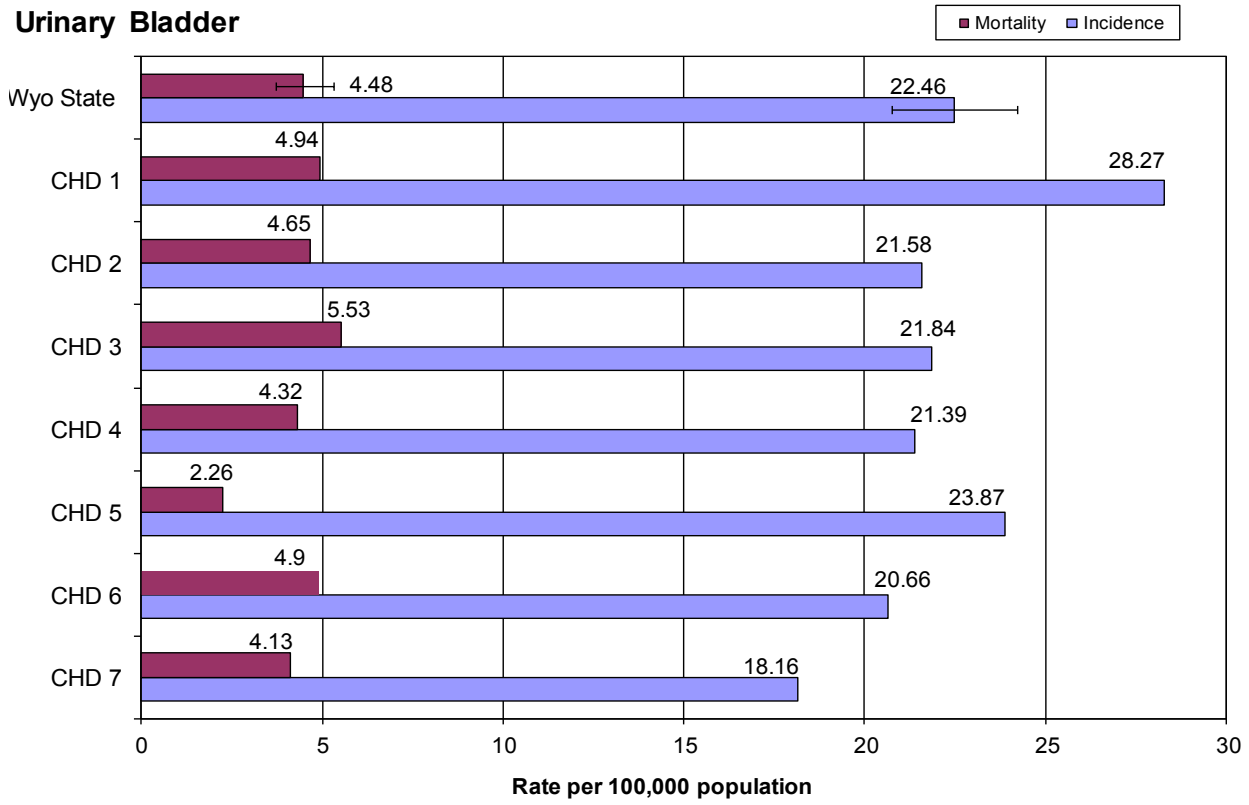
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



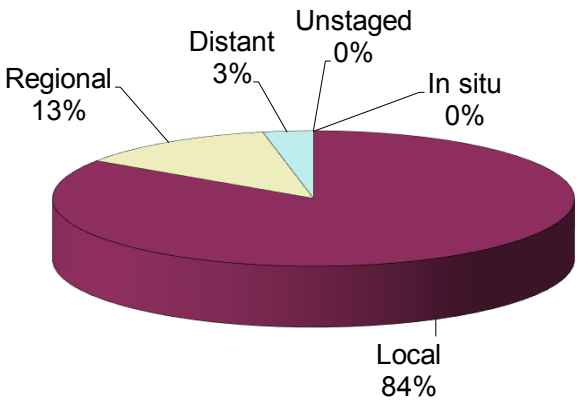
Brain/Central Nervous System (CNS)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	19	13	32
WY Incidence	6.2	3.9	5.1
US Incidence	8.4	5.8	7.0
# Cancer Deaths	9	15	24
WY Mortality	3.1	5.1	4.1
US Mortality	5.8	3.9	4.8

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



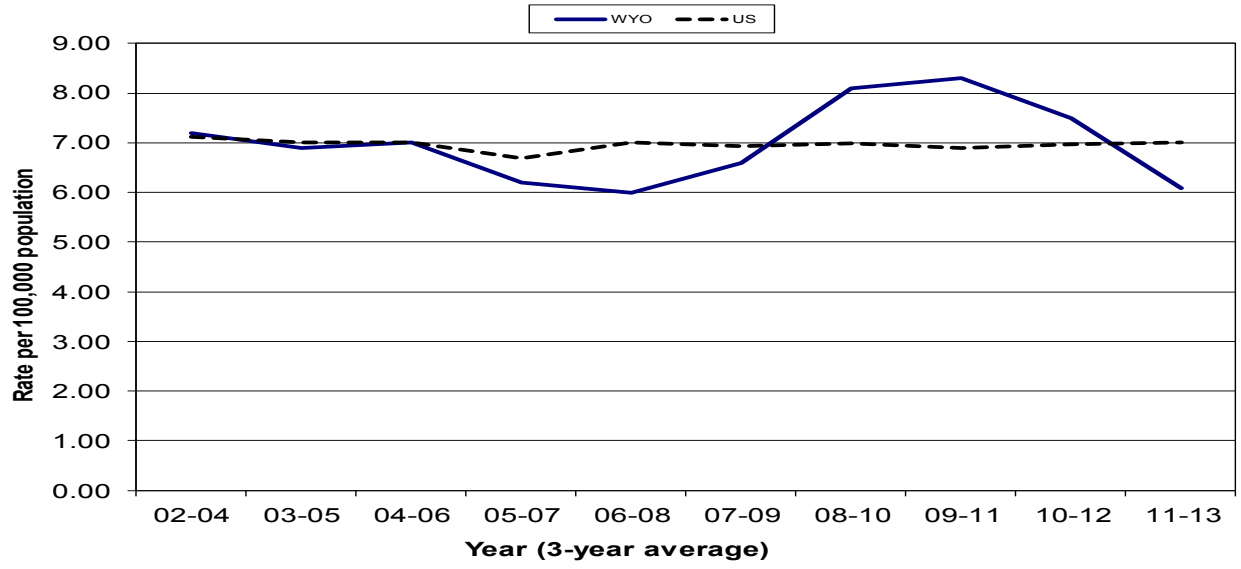
The incidence of Brain/CNS cancer in males, females, and total population were all lower than the U.S. rates in 2013. Male and total mortality rates were both lower than the national rates, while the female rate was higher than the national rate. None of these differences were significant.

The 12-year trend shows a continuing decrease in Brain/CNS incidence that began in 09-11. The national trends appears steady.

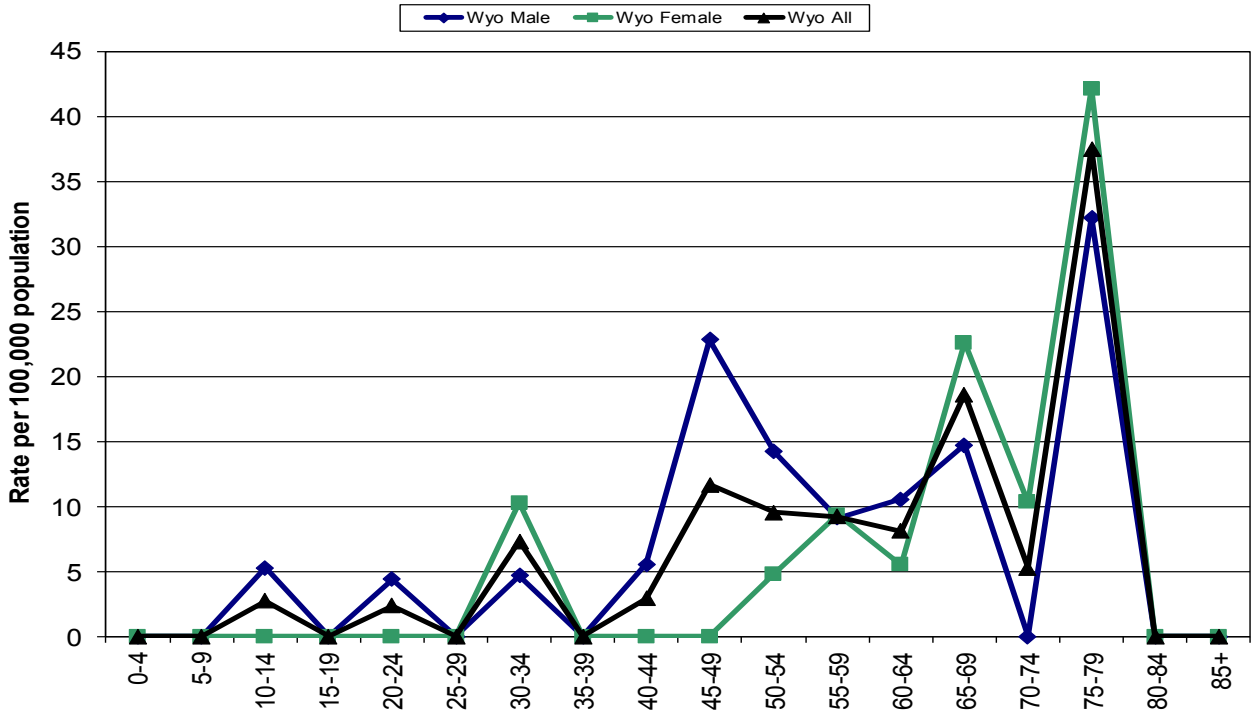
The percentage of cases diagnosed as local was higher in 2013 than in 2012 (74%), while the regional percentage in 2013 was lower than in 2012 (19%). None of these changes were statistically significant/

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

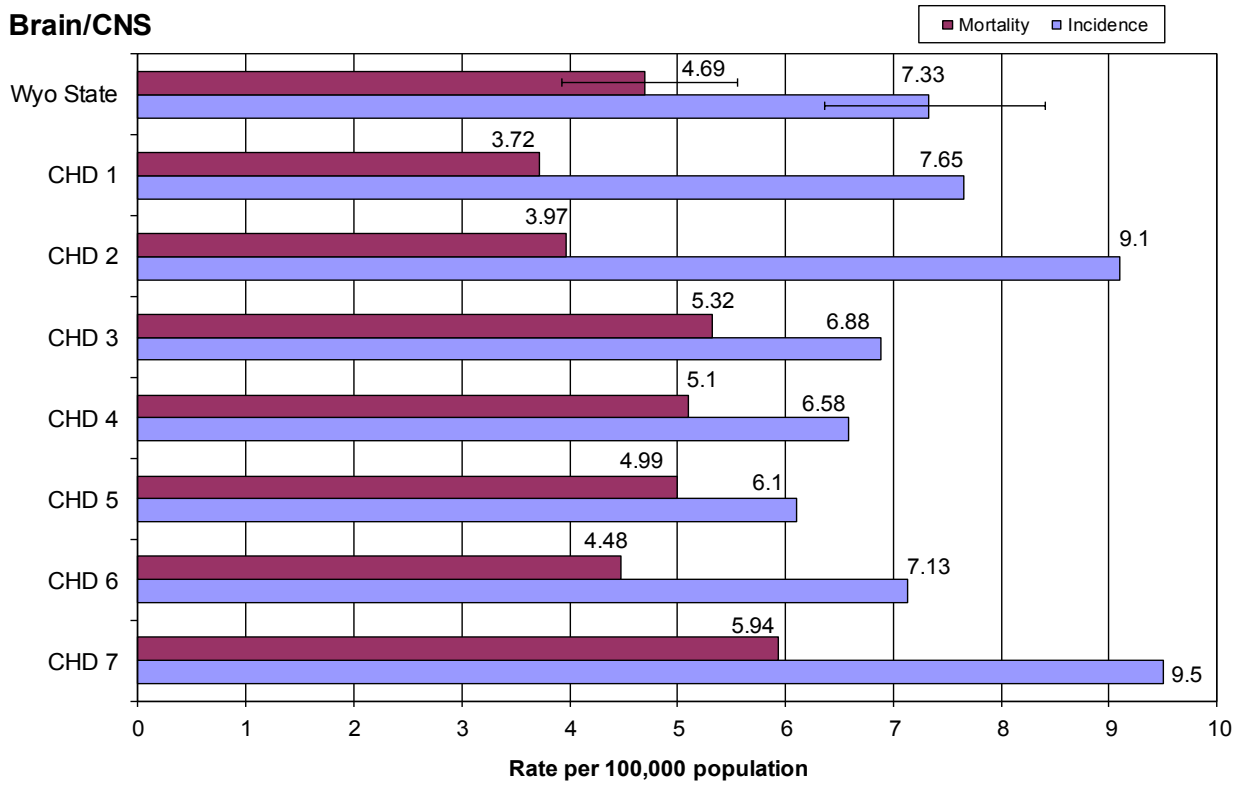
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



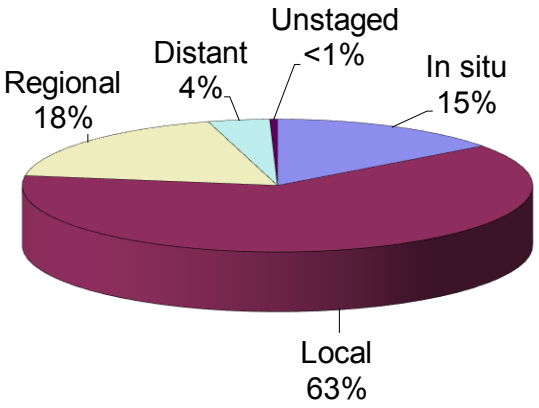
Breast (Female Only)

Incidence and Mortality Summary

	Female
# Invasive Cases	342
# In situ Cases	60
WY Incidence	103.7
US Incidence	127.3
# Cancer Deaths	72
WY Mortality	20.8
US Mortality	20.7

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



The incidence of female breast cancer in Wyoming was lower than the U.S. rate in 2013, but not significantly. The mortality rates were basically the same.

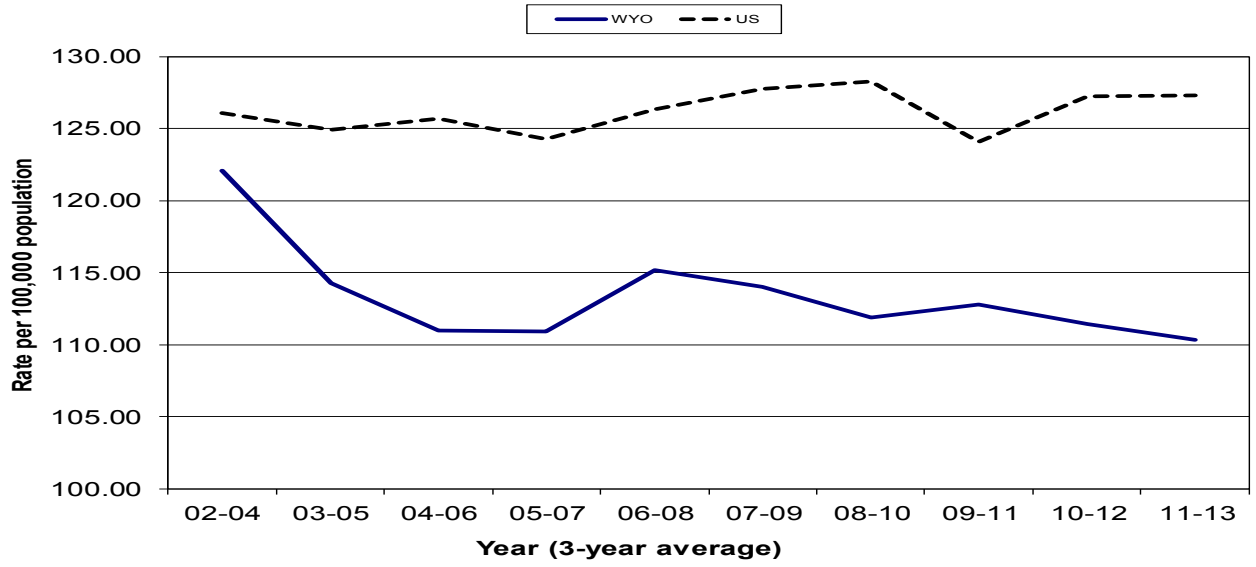
The 12-year incidence trend shows a decrease starting in 09-11 for Wyoming while the national trend has leveled off from an increase from 09-11 to 10-12.

The percentage of cases diagnosed as local was up from 2012 (55%) while regional, distant, and in situ were all a bit lower.

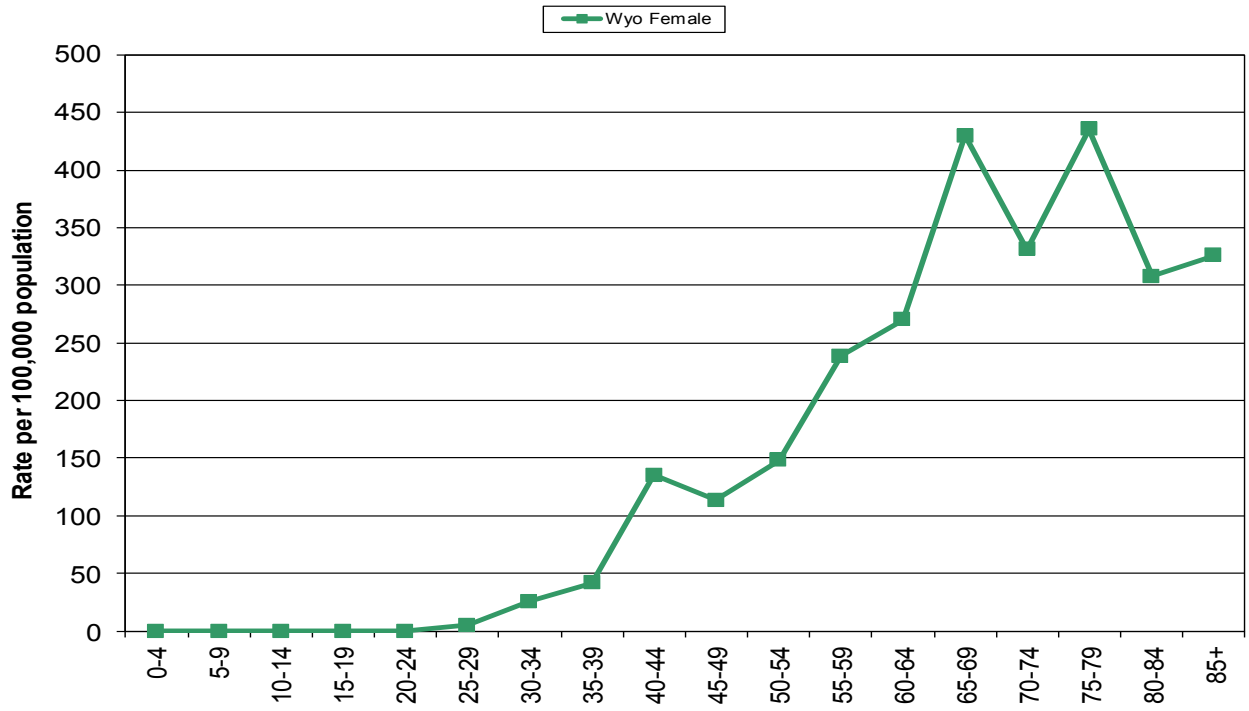
No statistically significant differences were found for incidence or mortality between CHDs.

There were eight cases of breast cancer diagnosed and two deaths reported in Wyoming males in 2013.

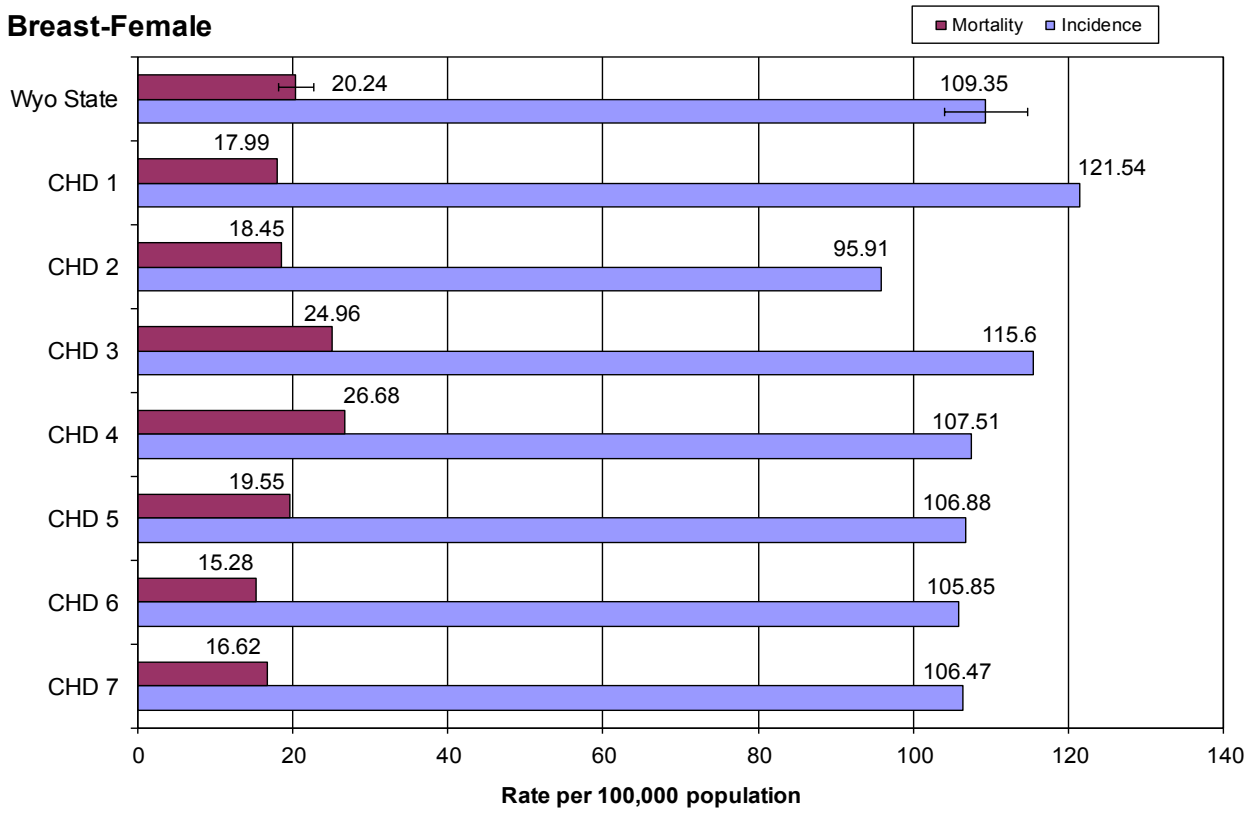
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



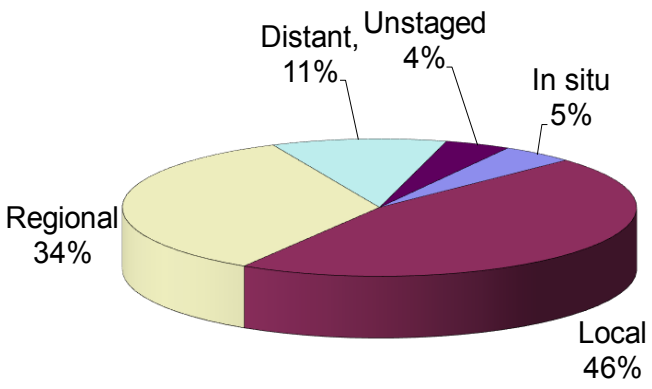
Colorectal

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	120	88	208
# In situ Cases	7	3	10
WY Incidence	37.7	26.4	32.0
US Incidence	44.3	34.3	38.9
# Cancer Deaths	45	31	76
WY Mortality	14.6	9.1	11.9
US Mortality	17.1	12.1	14.3

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



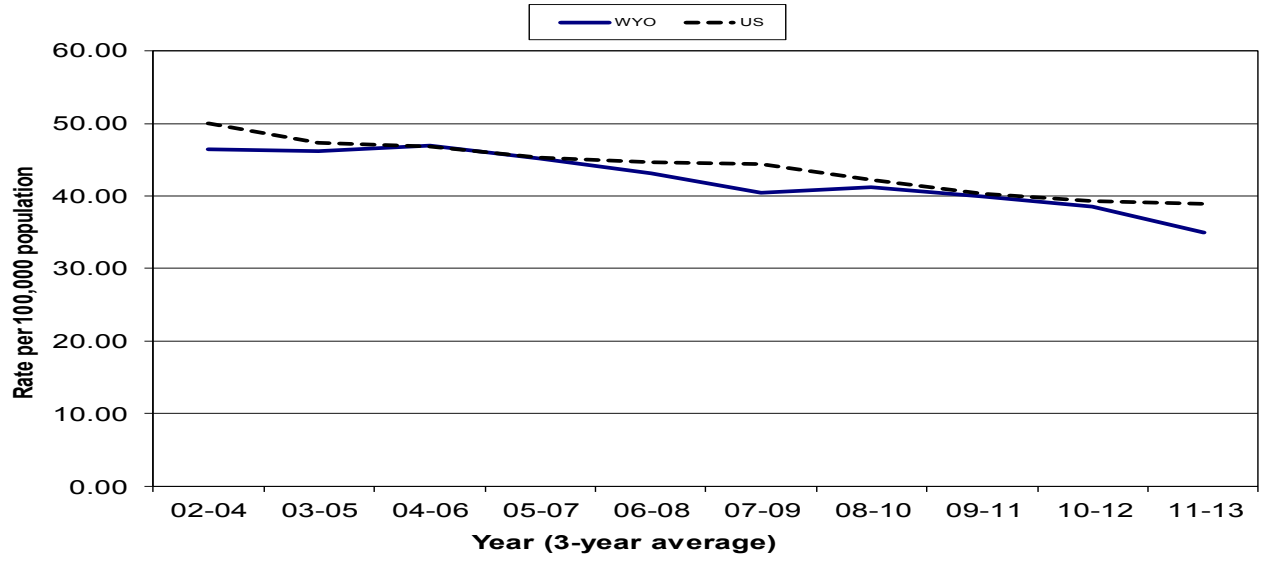
The Wyoming incidence and mortality rates for colorectal cancer in males, females and total population were all lower than the national rates. None of these differences were statistically significant.

The 12-year incidence graph shows that rates in Wyoming continues to decrease, while the national rates appears to have leveled off.

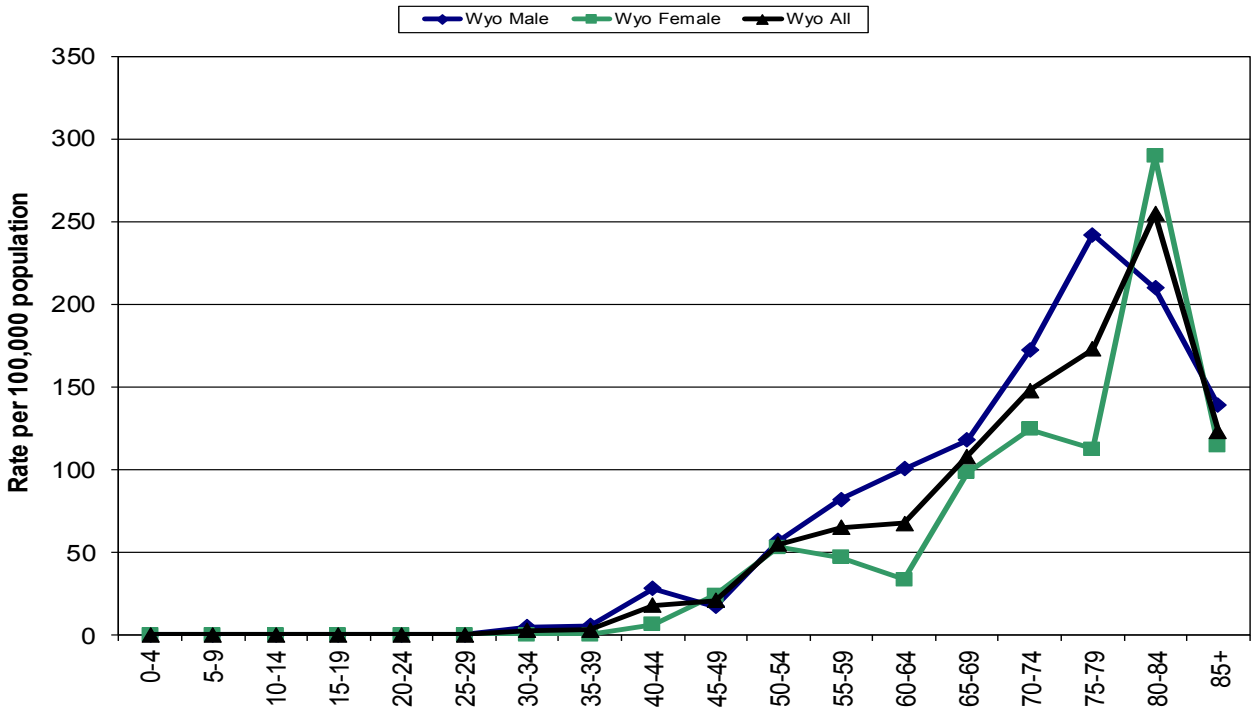
The percentage of colorectal cancers diagnosed at the distant stage in 2013 was significantly lower than 2012 (22%). The percent diagnosed as local increased from 2012 (37%), but this difference was not significant.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

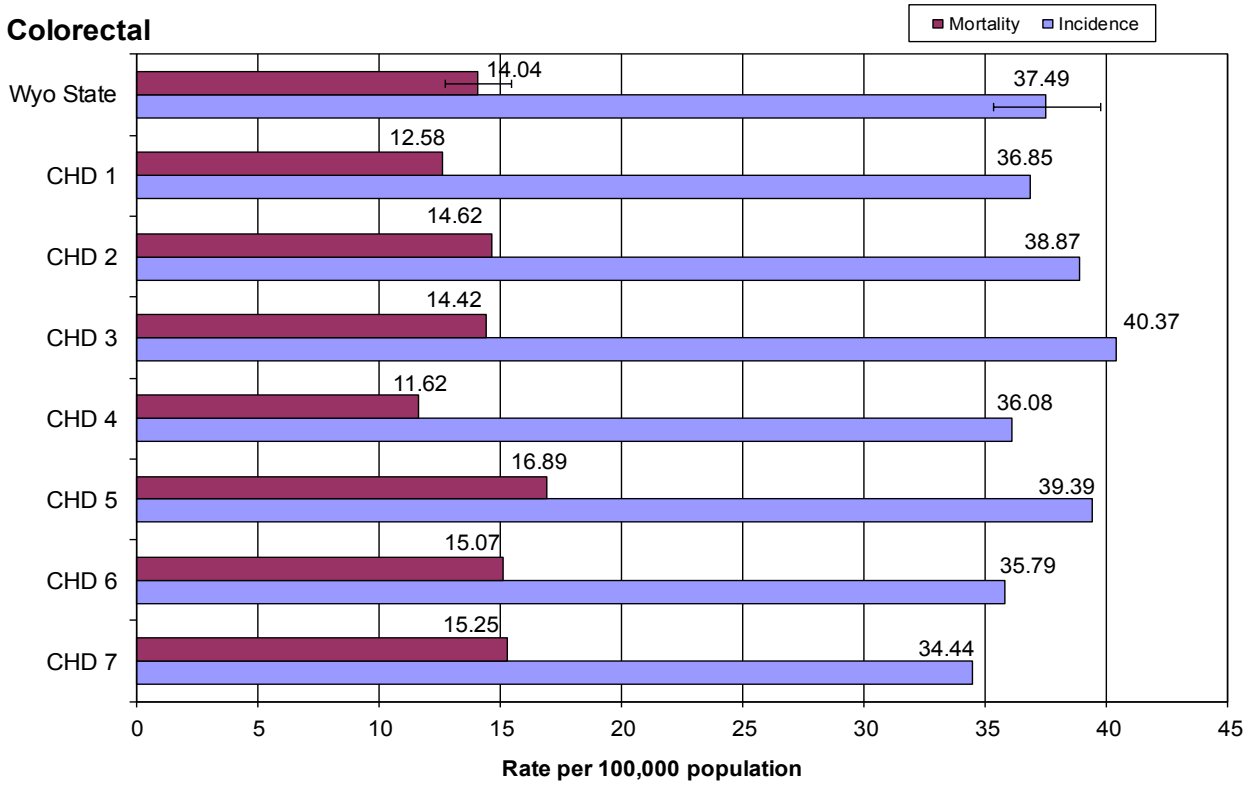
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



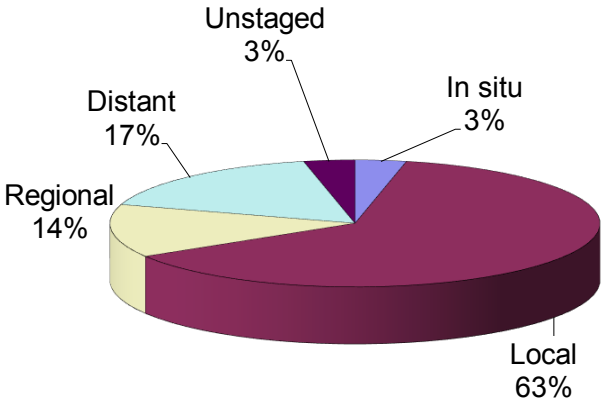
Kidney/Renal Pelvis

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	61	25	86
WY Incidence	18.9	7.9	13.3
US Incidence	21.8	11.3	16.2
# Cancer Deaths	10	6	16
WY Mortality	3.0	1.7	2.3
US Mortality	5.8	2.5	4.0

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



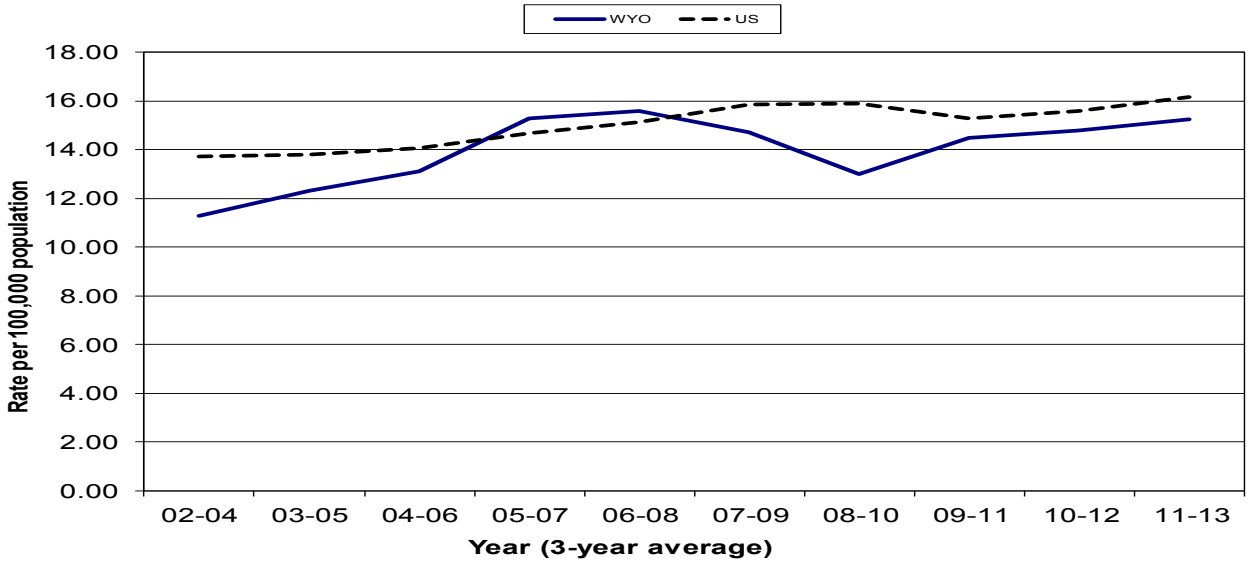
The incidence and mortality rates for kidney/renal pelvis cancer in Wyoming males, females and the total population were all lower than the national rates in 2013. None of these differences were statistically significant.

The 12-year trend shows an increase for both Wyoming and the U.S. starting in 09-11.

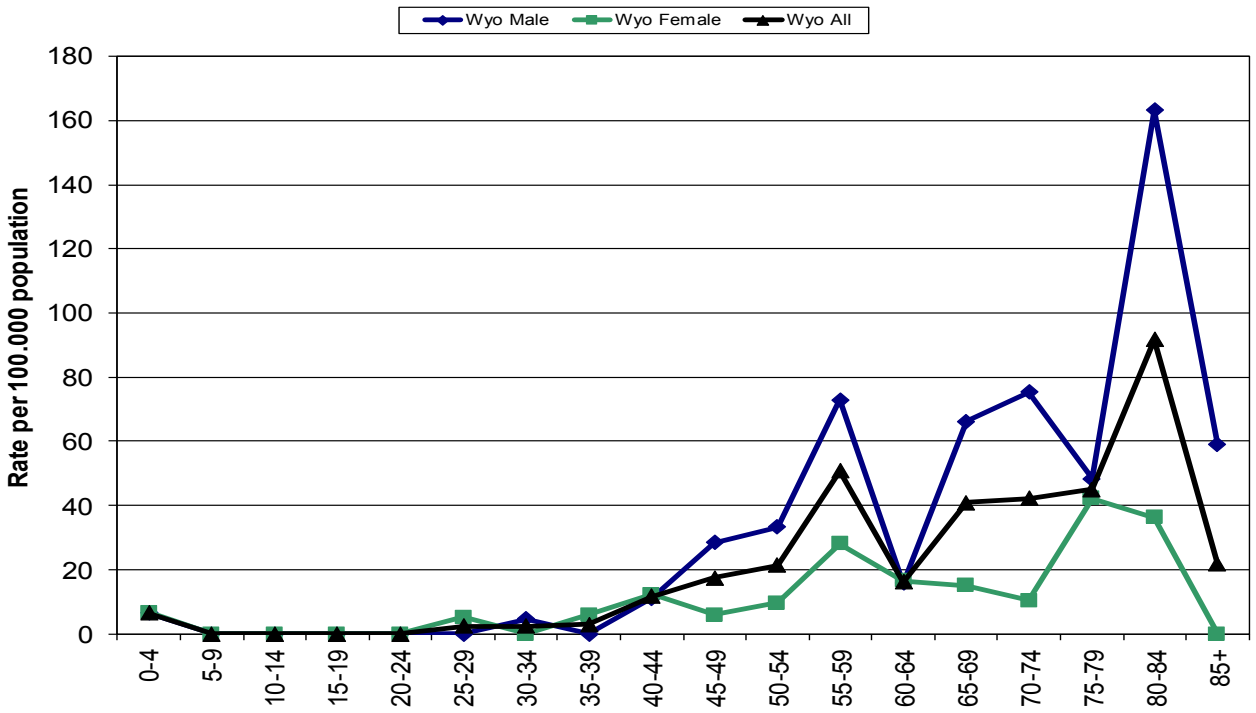
A lower percent of kidney/renal pelvis cases in were diagnosed as regional than in 2012 (21%), while the percentage diagnoses as distant increased from 2012 (9%). Neither difference was statistically significant.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

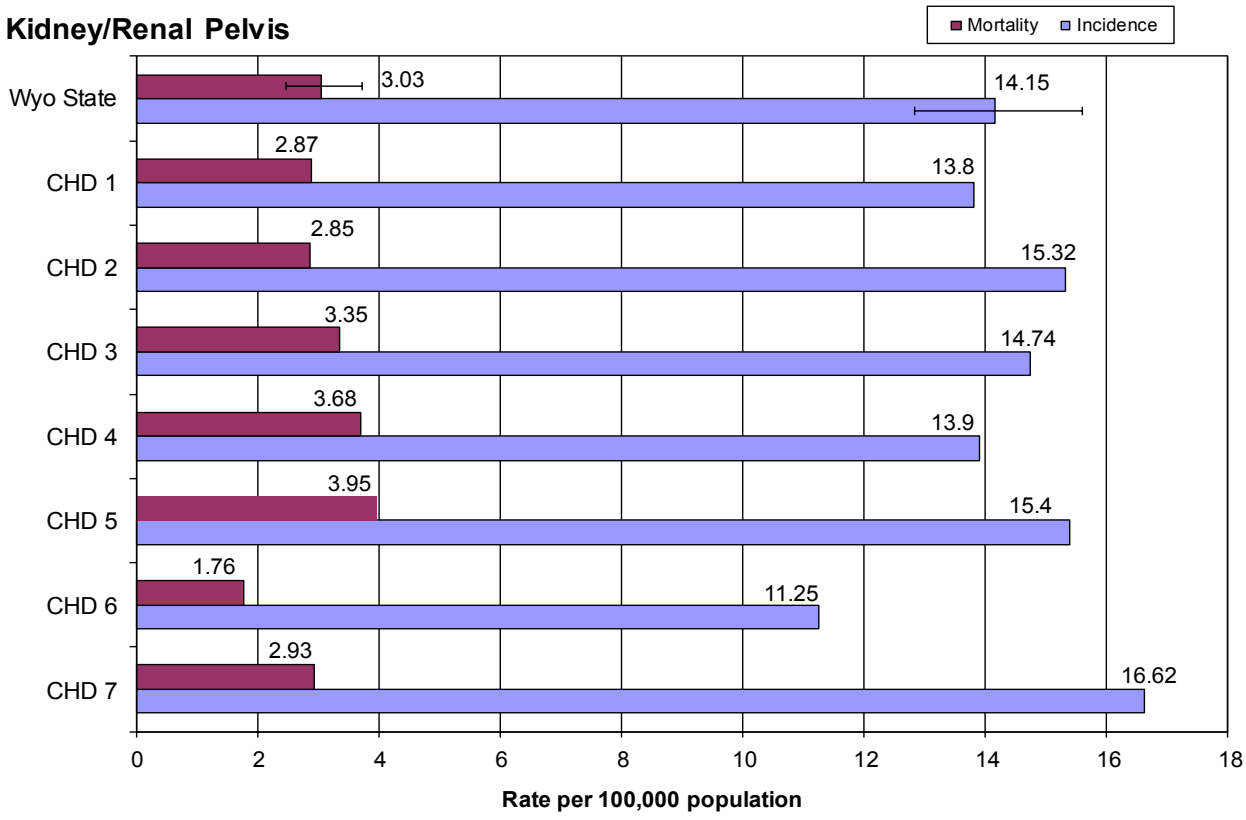
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



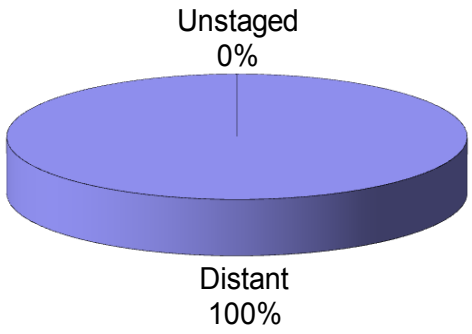
Leukemia

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	49	22	71
WY Incidence	15.5	6.7	11.0
US Incidence	17.7	10.9	13.9
# Cancer Deaths	29	31	60
WY Mortality	10.4	8.8	9.4
US Mortality	9.6	5.2	7.1

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis

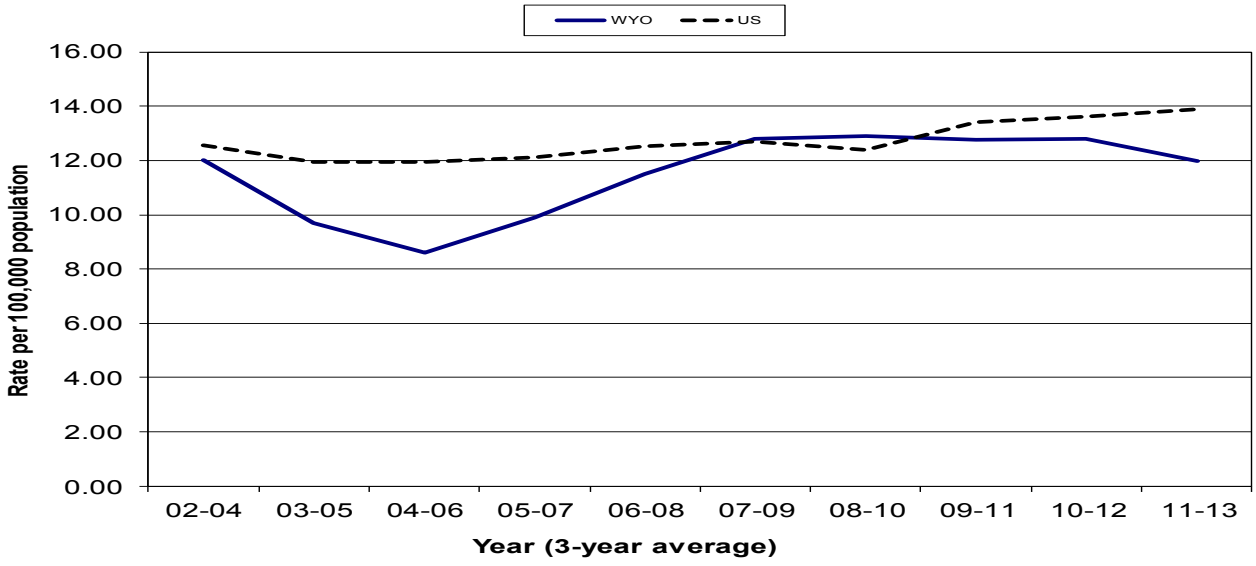


The incidence rates for leukemia in Wyoming for males, females, and total population were all lower than the national rates. The mortality rates in Wyoming were all higher than the national rates in 2013. None of the differences were statistically significant.

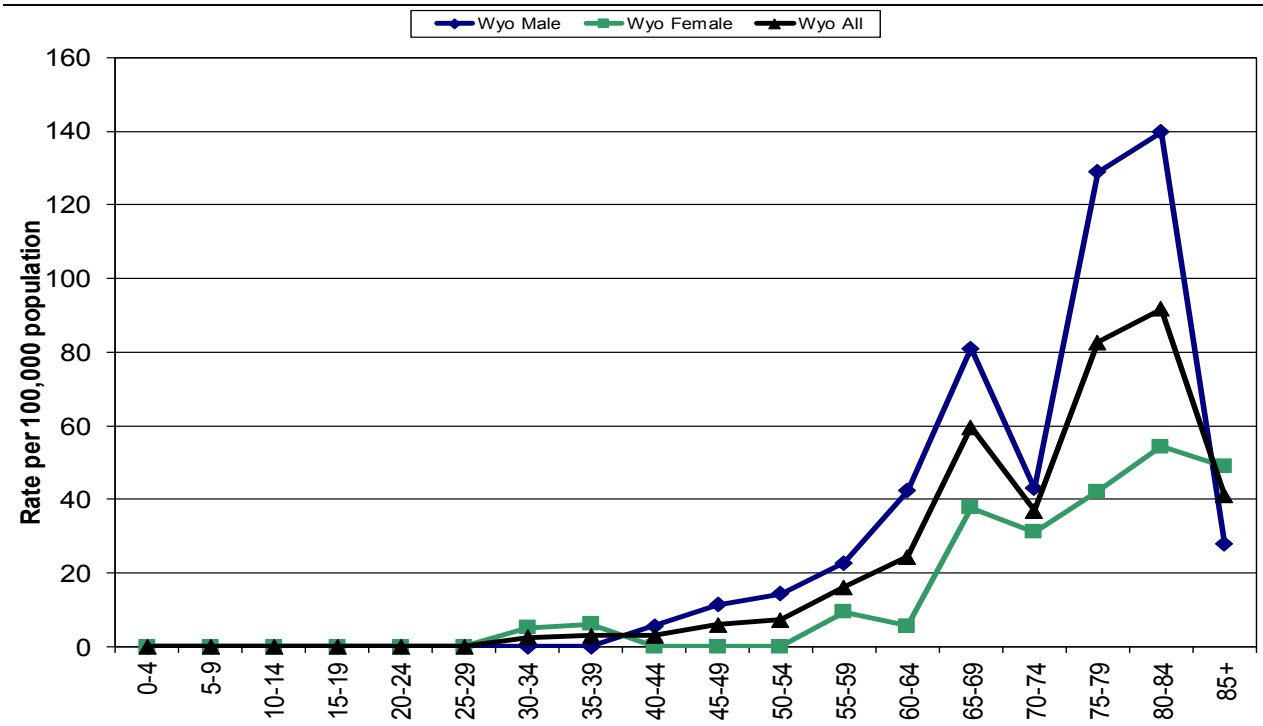
The incidence trend for Wyoming appears to be decreasing between 10-12 to 11-13, while the national rate continues to increase.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

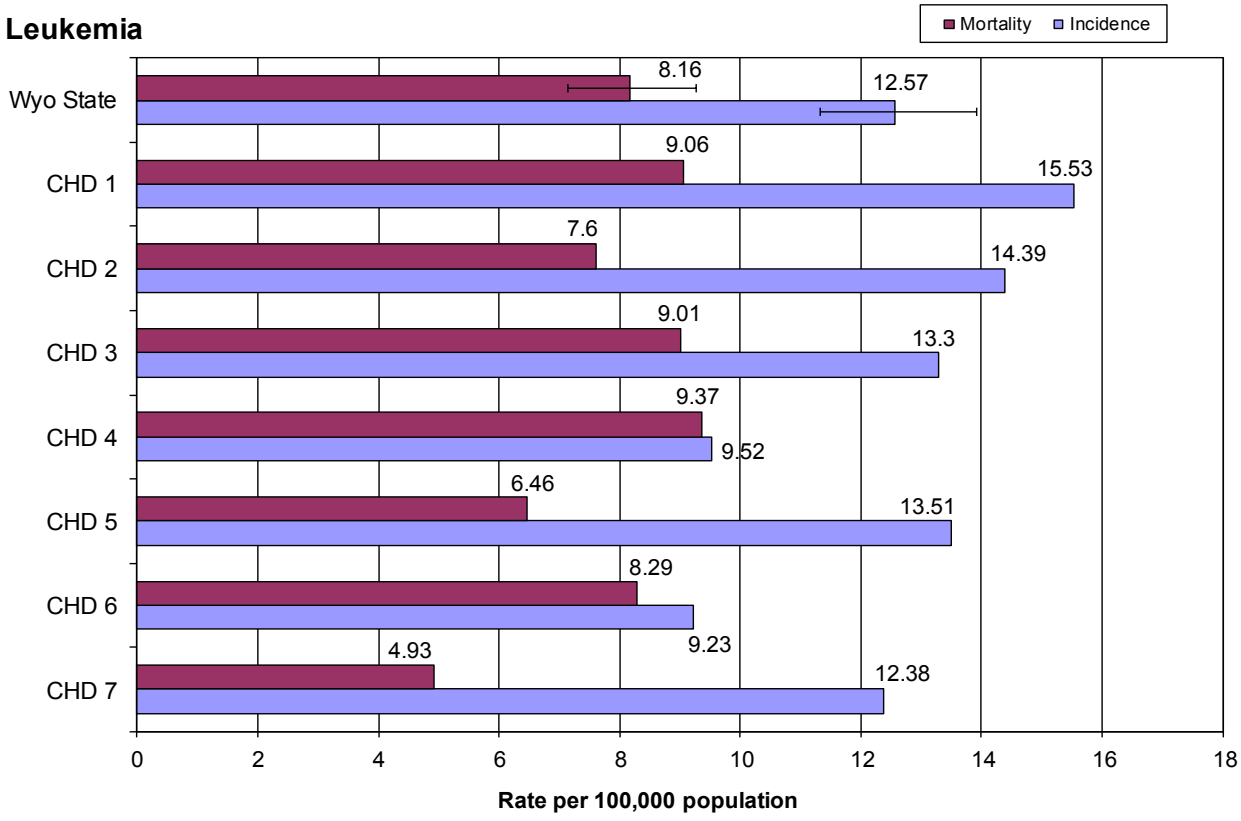
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



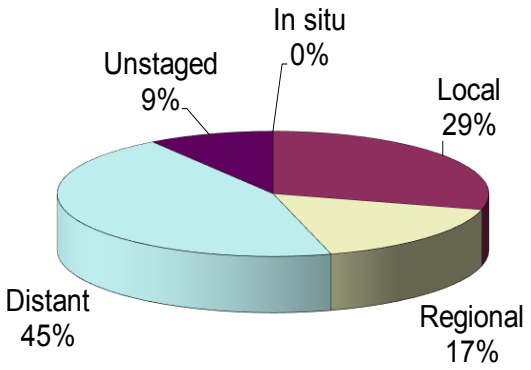
Lung and Bronchus

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	133	121	254
WY Incidence	43.3*	34.5*	38.3*
US Incidence	65.0	50.1	56.5
# Cancer Deaths	128	98	226
WY Mortality	44.6	28.8	35.3
US Mortality	56.1	37.7	45.7

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



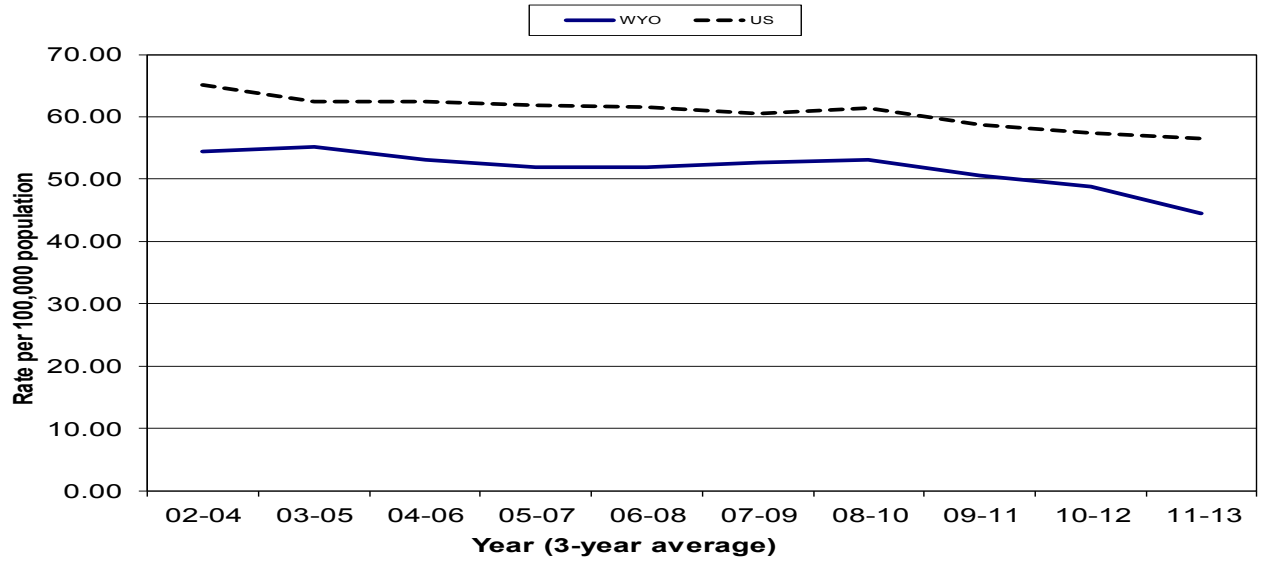
Lung cancer incidence and mortality rates in Wyoming males, females, and total population were all significantly lower than the national rates in 2013. All three mortality rates were also lower than the national rate, though not significantly.

The 12 year incidence trend showed the rates for lung cancer show a continued decrease in Wyoming and the U.S. from 08-10.

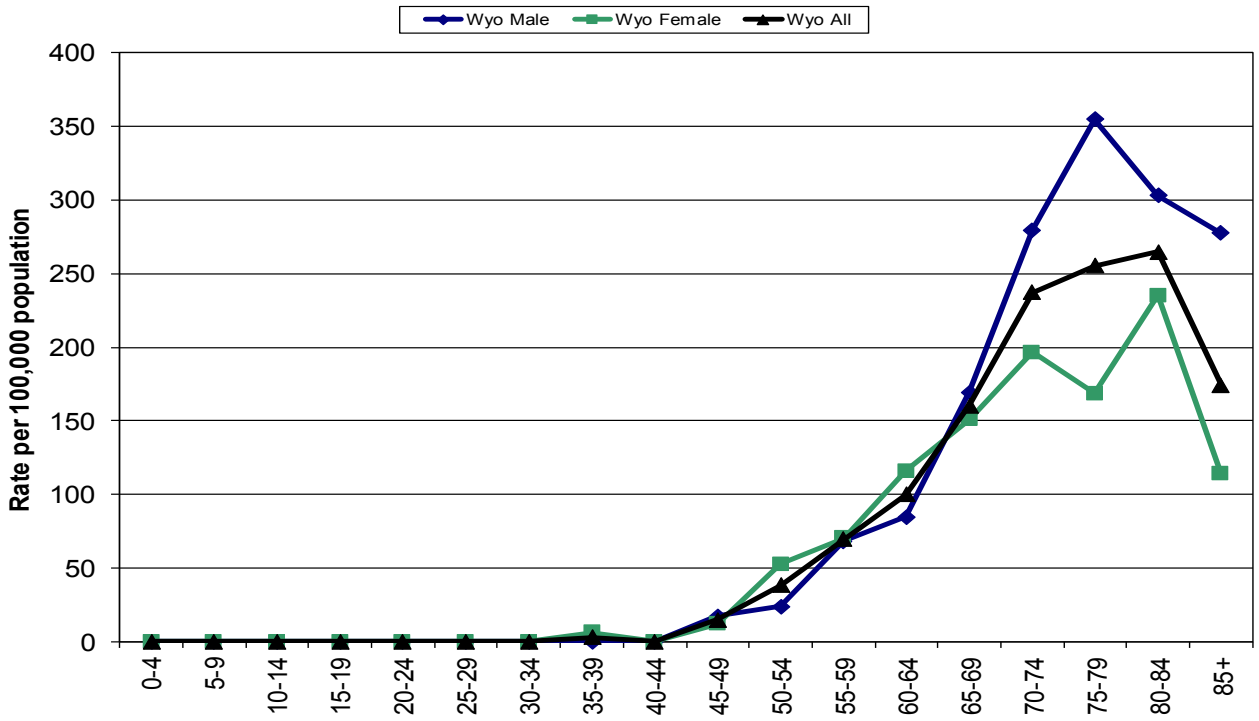
The lower percentage of cases diagnosed as distant in 2013 than 2012 (54%), while more cases were diagnosed at the local stage than in 2012 (22%). Neither difference was statistically significant.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

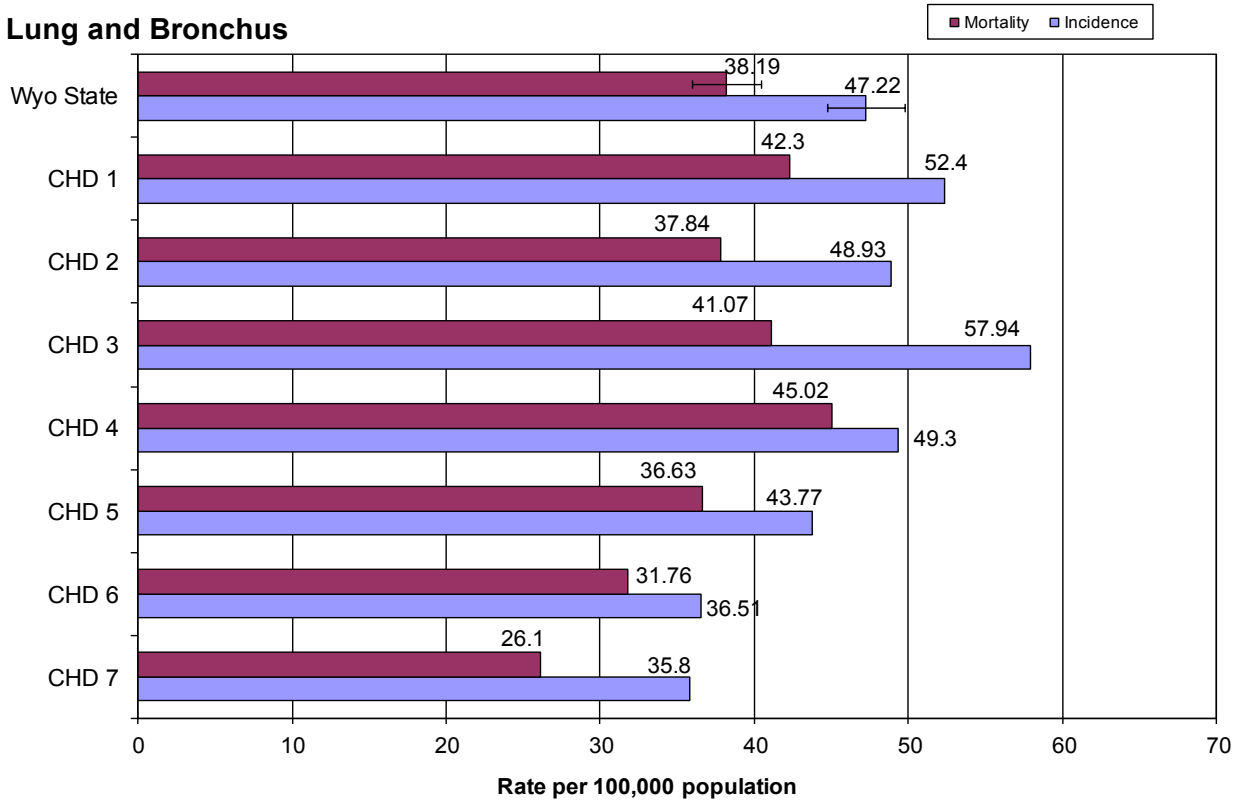
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



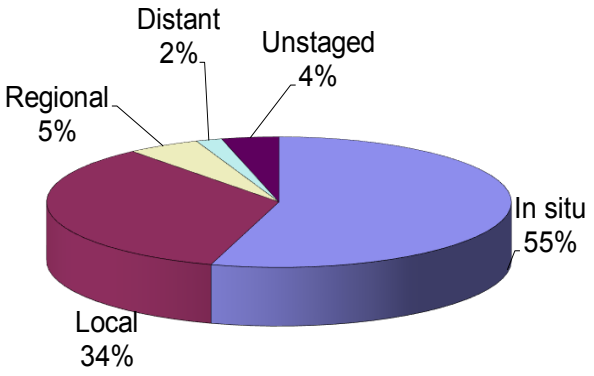
Melanoma (of the skin)

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	72	53	125
# In situ Cases	87	64	151
WY Incidence	23.6	16.1	19.4
US Incidence	33.8	20.4	26.1
# Cancer Deaths	13	2	15
WY Mortality	4.3	NC	2.3
US Mortality	4.5	2.0	3.1

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



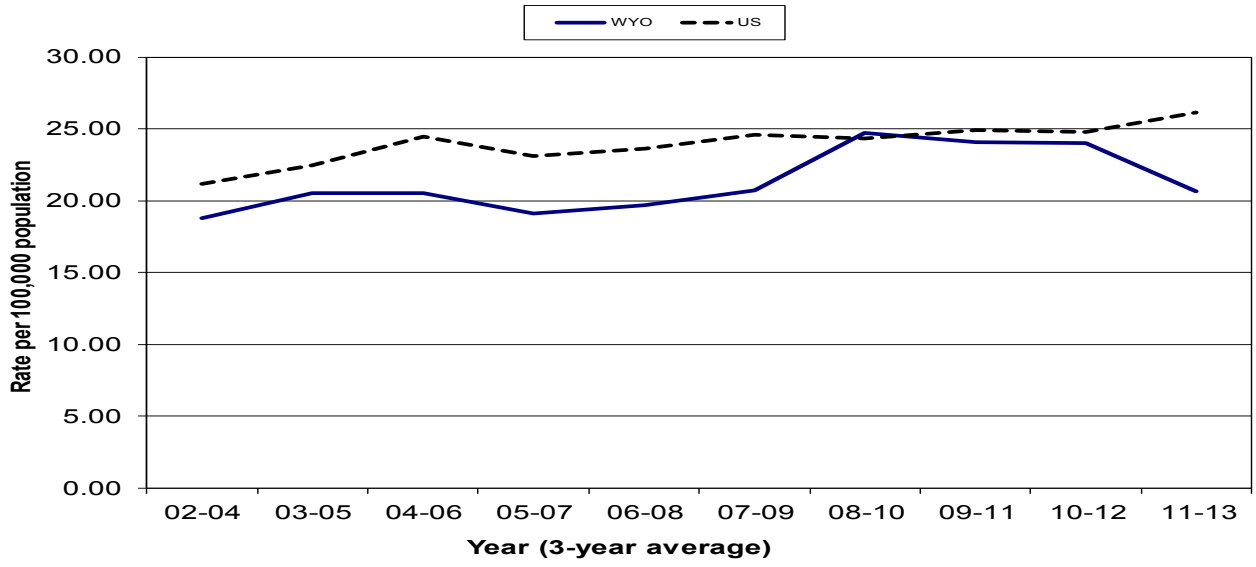
Incidence and mortality rates for melanoma of the skin for Wyoming males, females, and total population were all lower than the national rates in 2013. None of the differences were statistically significant.

A decrease in melanoma incidence for Wyoming is shown starting in 10-12 and continuing into 11-13. On the other hand, the national rate began to increase in 10-12 through 11-13.

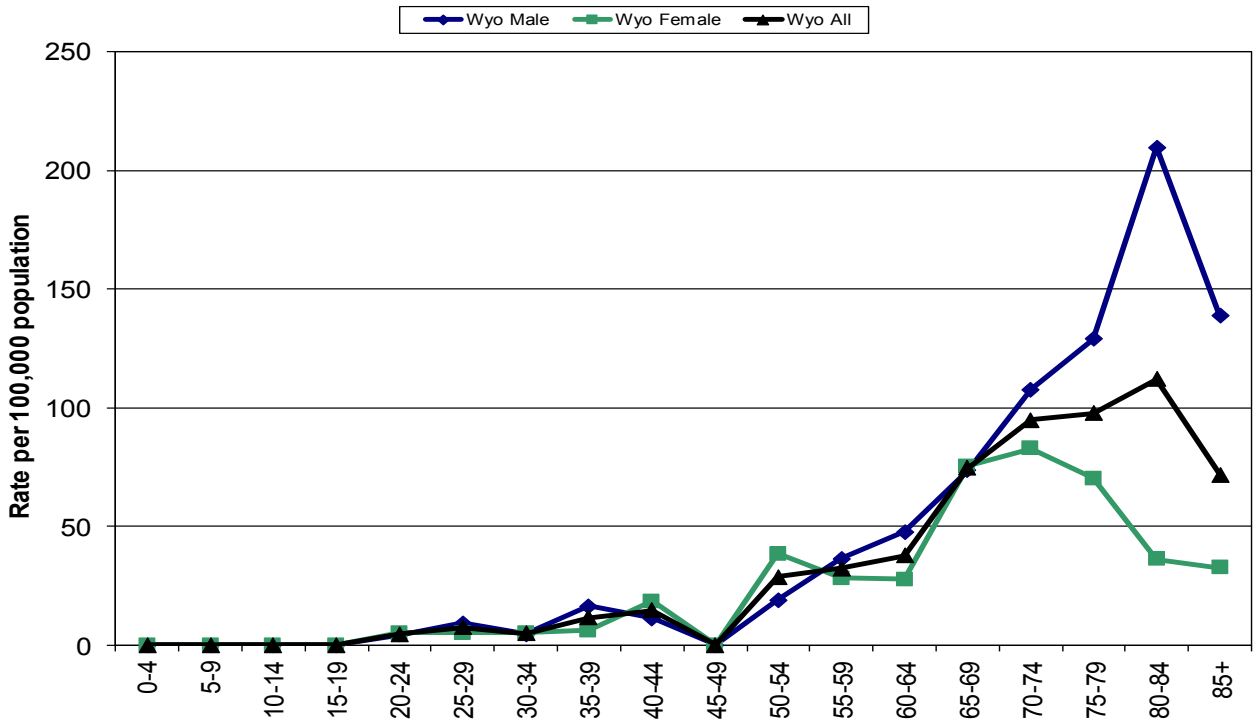
The percent of cases diagnosed at each stage in 2013 were similar to the percentages seen in 2013.

No statistically significant differences were found between the CHD and state rate for incidence or mortality.

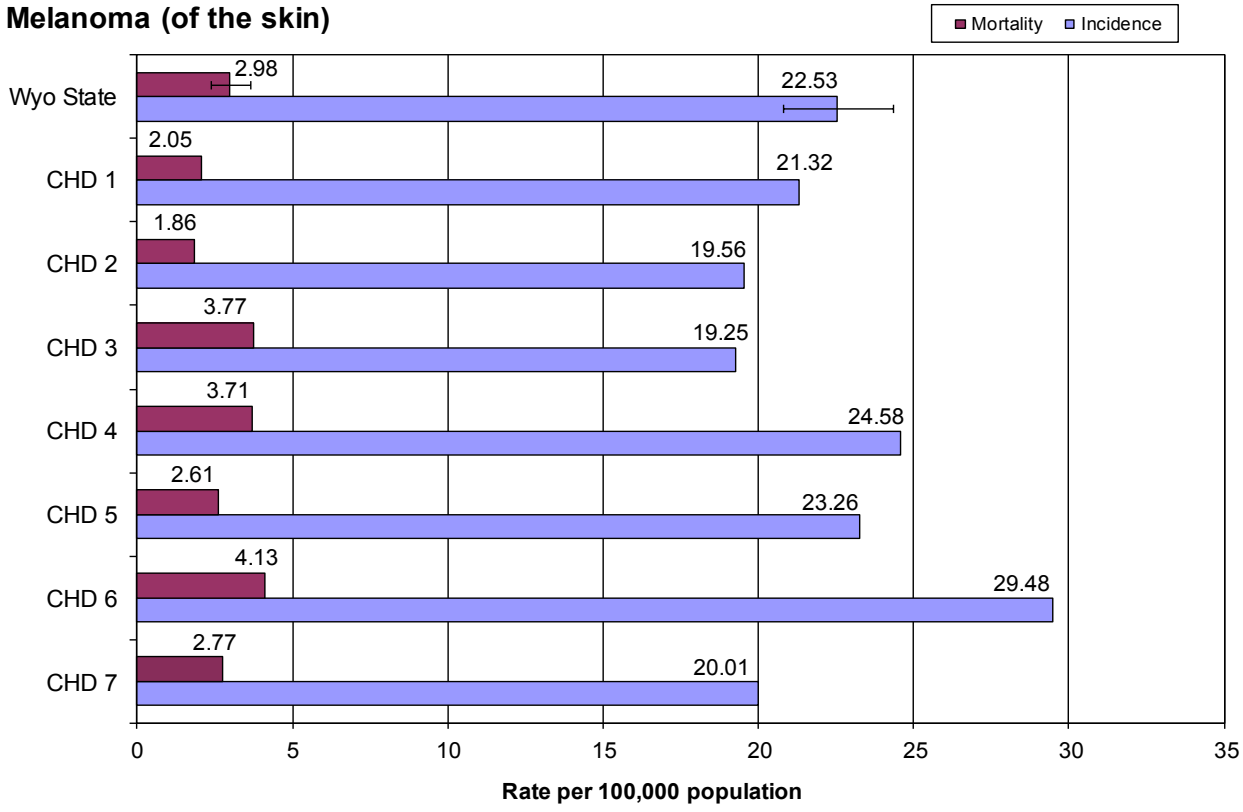
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



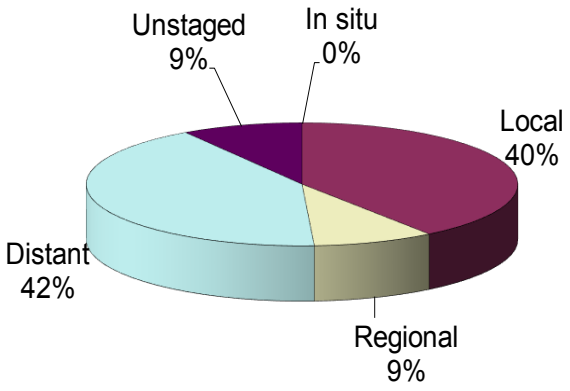
Non-Hodgkin Lymphoma

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	56	54	110
WY Incidence	18.5	15.6	17.0
US Incidence	24.6	16.6	20.0
# Cancer Deaths	22	20	42
WY Mortality	8.7	5.6	6.9
US Mortality	8.0	4.8	6.2

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



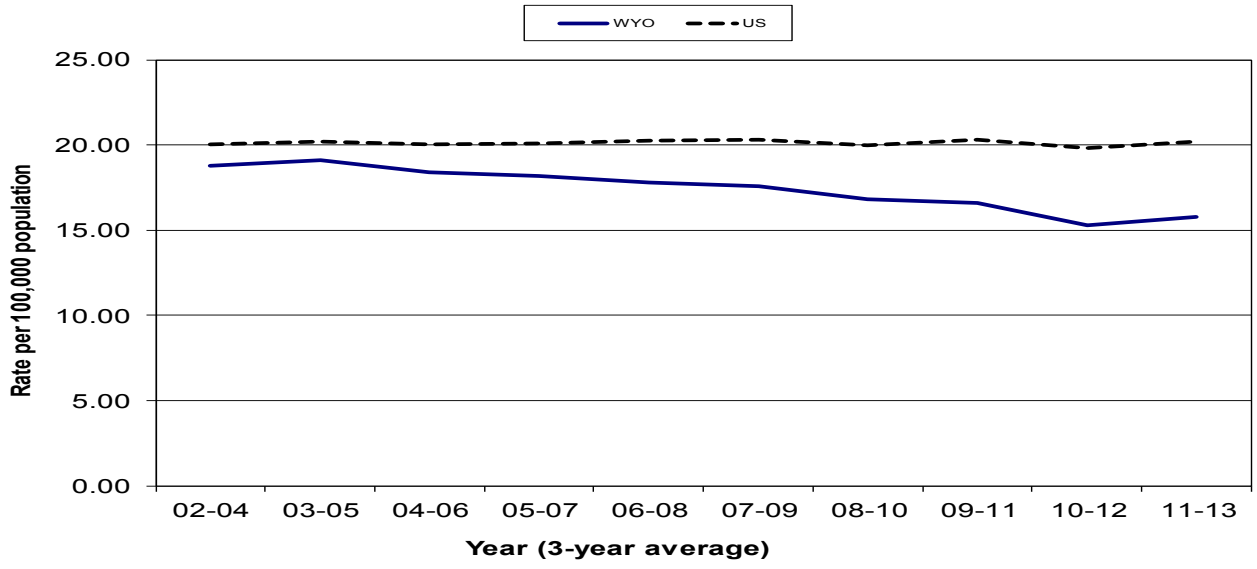
The incidence rates for non-Hodgkin lymphoma in males, females, and total population in Wyoming were all lower than the national rates. Conversely, the mortality rates in Wyoming for 2013 were all higher than the national rates. None of the differences were statistically significant.

The incidence trend for Wyoming that had been decreasing since 03-05 showed a slight uptick in 11-13. The national rate has remained basically flat.

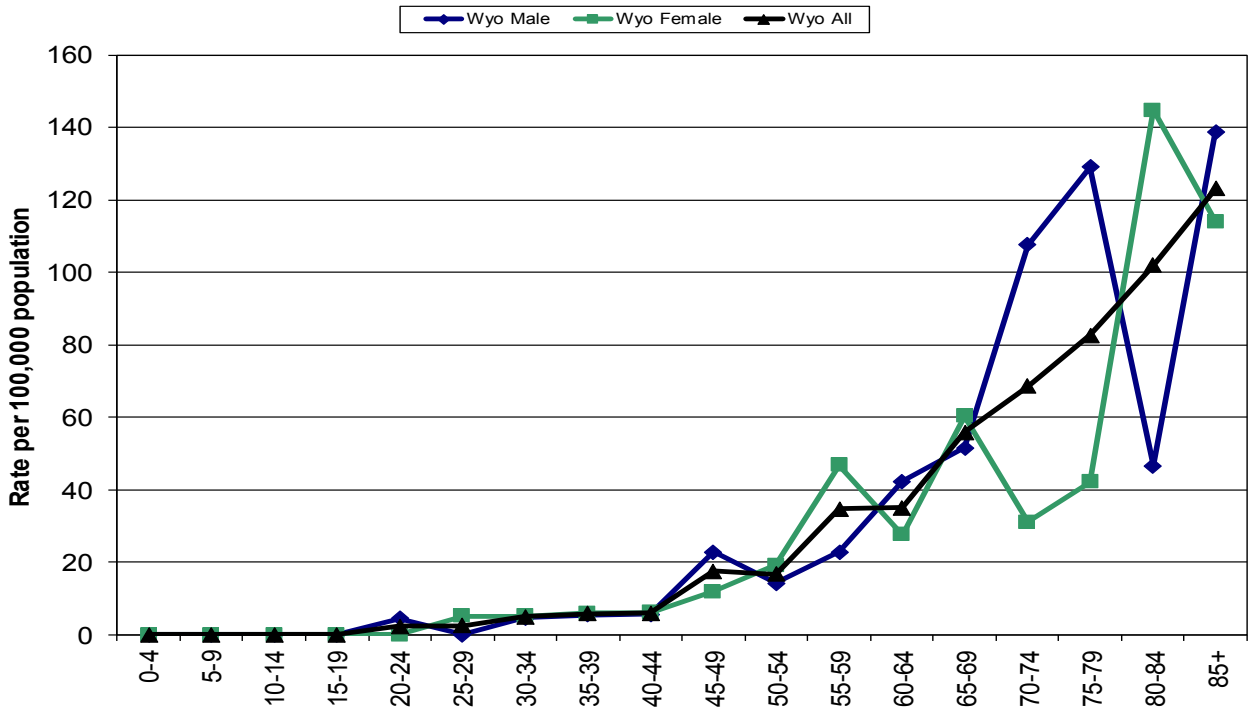
The percentage of cases diagnosed as regional was significantly lower in 2013 than in 2012 (18%). None of the other changes in diagnosis stage was statistically significant.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

12-Year Incidence Trend

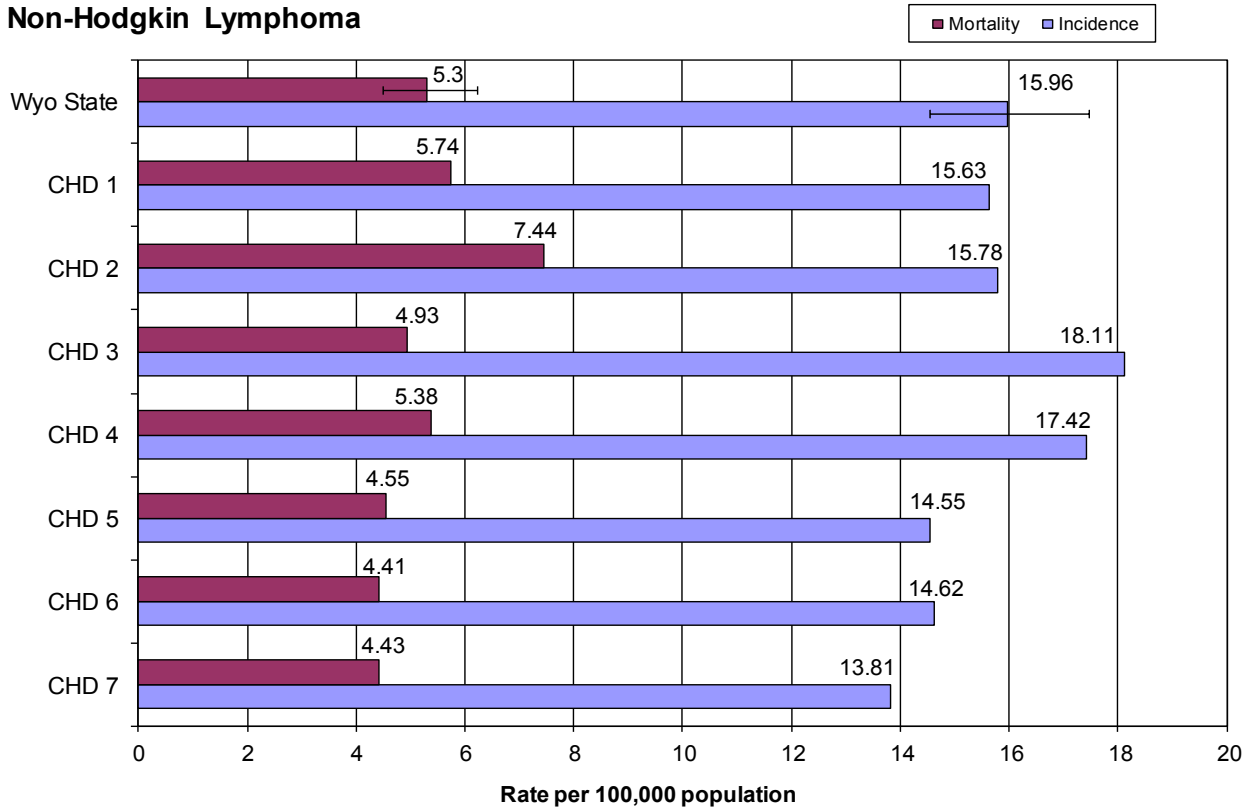


Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013

Non-Hodgkin Lymphoma



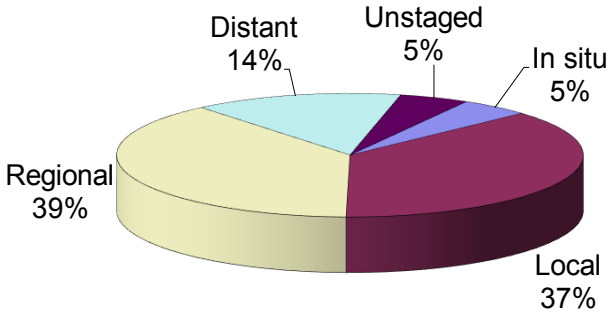
Oral Cavity and Pharynx

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	46	13	59
WY Incidence	14.0	3.6	8.6
US Incidence	17.1	6.4	11.4
# Cancer Deaths	4	3	7
WY Mortality	NC	NC	1.1
US Mortality	3.8	1.4	2.5

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



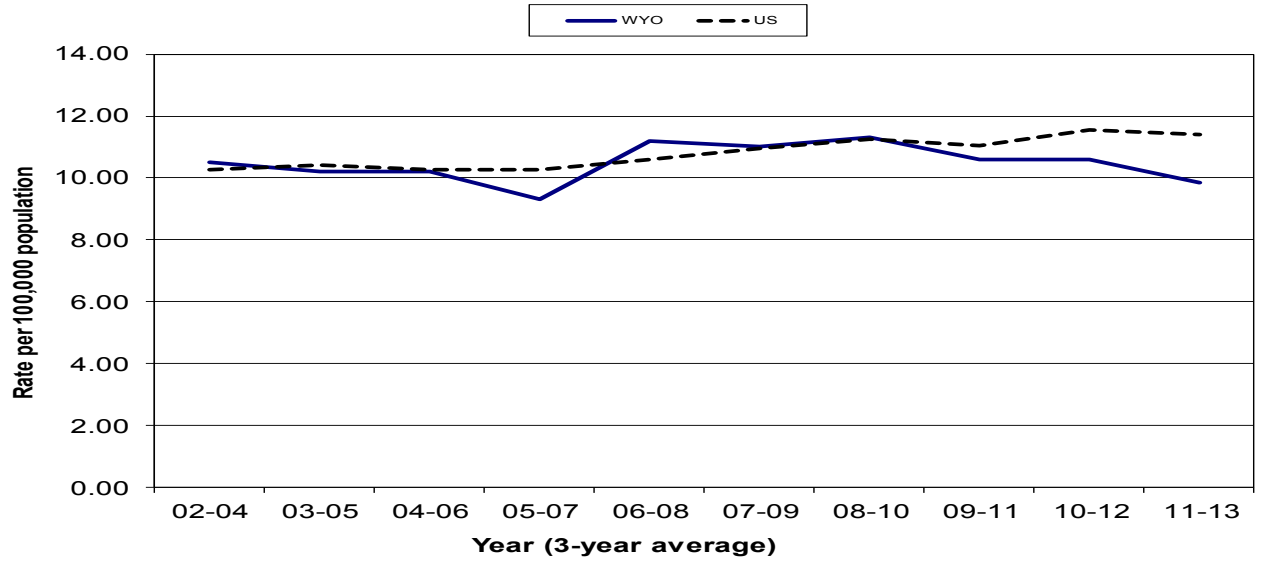
Incidence rates for cancer of the oral cavity and pharynx in Wyoming males, females and total population were all lower than the national rates, though none were statistically significant. Mortality rates for males and females were not calculated due to low numbers.

The incidence trend for Wyoming shows decrease starting in 10-12 through 11-13. The national rate appears to be leveling off between 10-12 and 11-13.

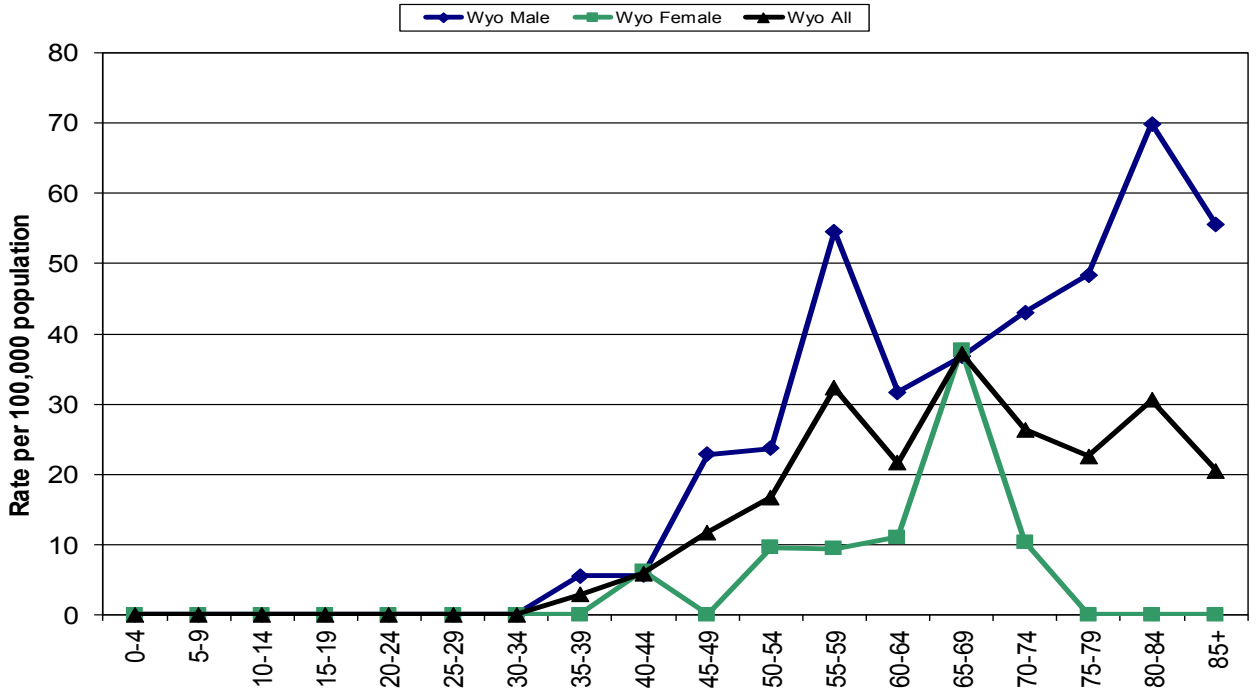
The percent of cancers diagnosed at the local and distant stages were down from 2012 (43% and 22% respectively). Regional diagnoses were up from 2012 (32%), though none of the differences were statistically significant.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

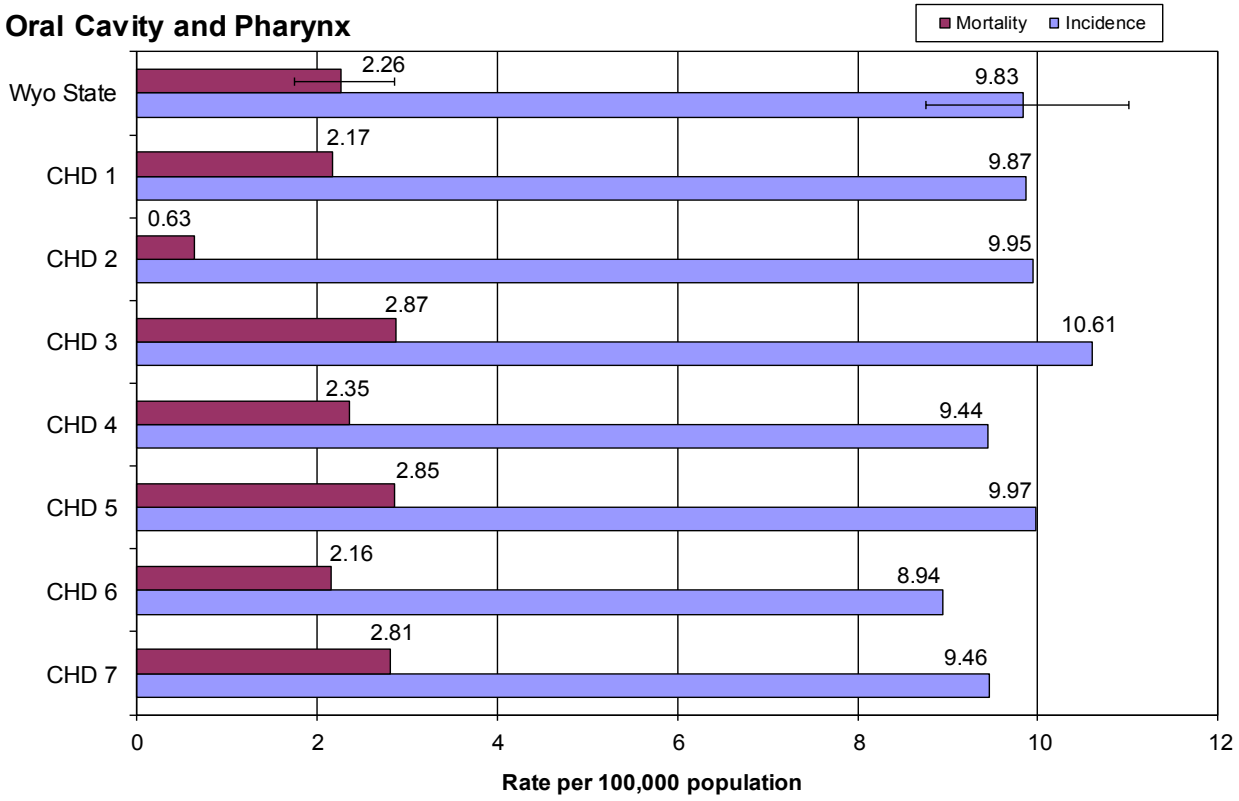
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



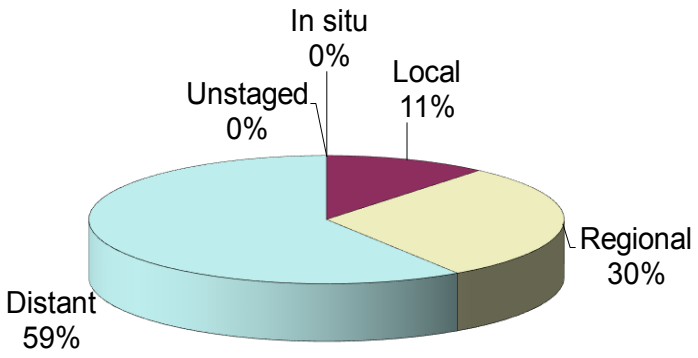
Ovary

Incidence and Mortality Summary

	Female
# Invasive Cases	27
WY Incidence	8.0
US Incidence	12.2
# Cancer Deaths	19
WY Mortality	5.4
US Mortality	7.7

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



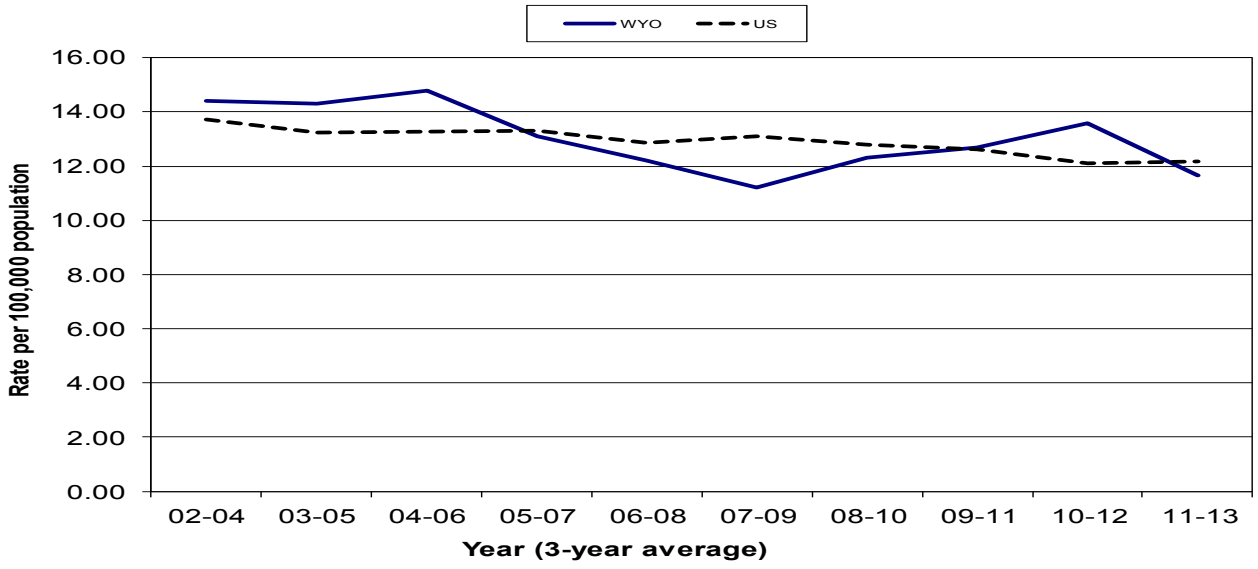
The incidence and mortality rate in Wyoming females for ovarian cancer were both lower than the national rate in 2013; however, neither difference was statistically significant.

The 12-year incidence trend shows a drop from 10-12 to 11-13, while the national incidence rate appears to be basically level.

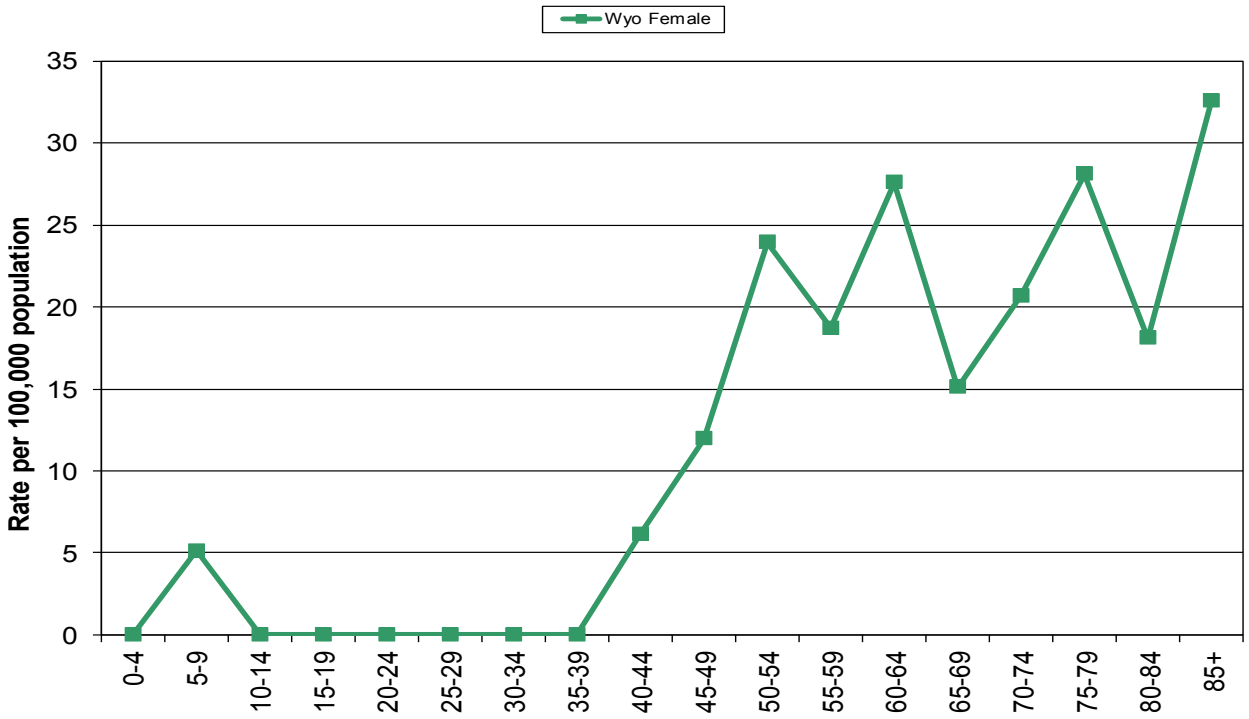
There was significant increase in the percentage of cancers diagnosed at the regional stage from 2012 (10%) with a concurrent, but non-significant, decrease in distant (69%) and local (15%) diagnoses.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

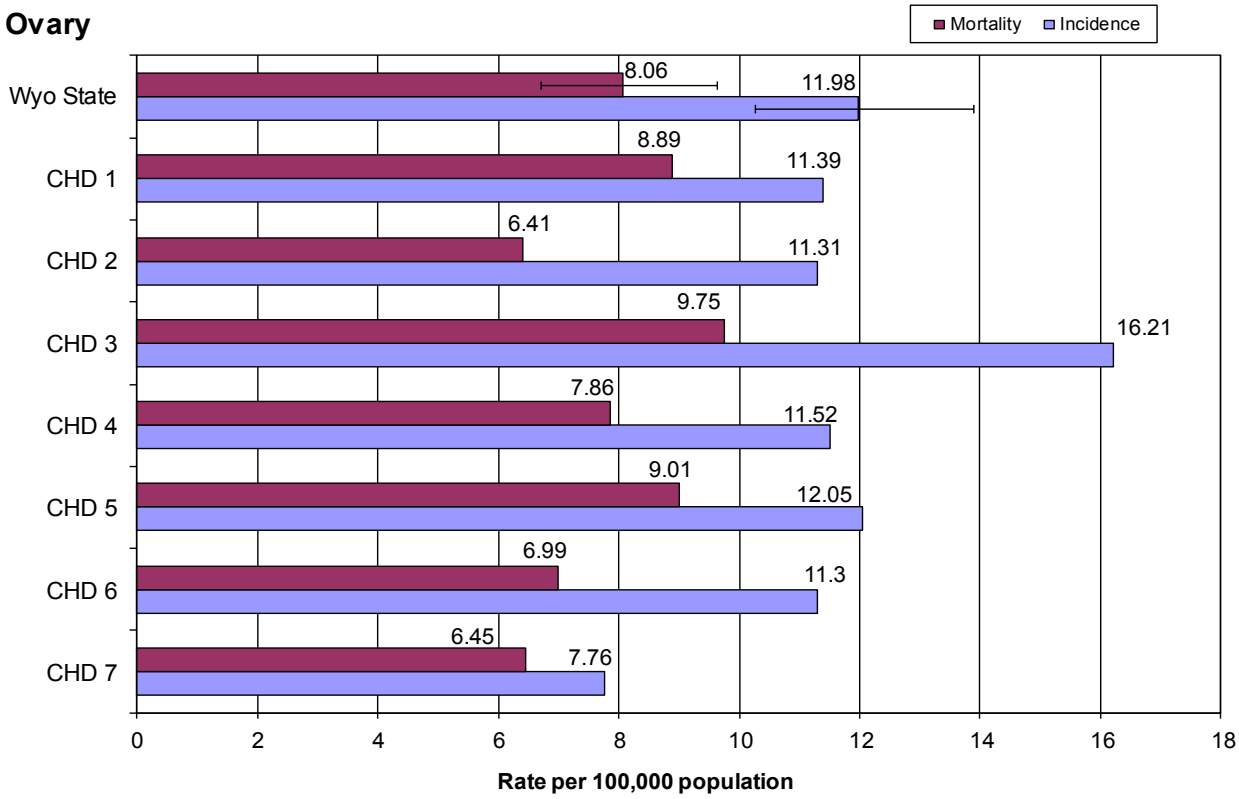
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



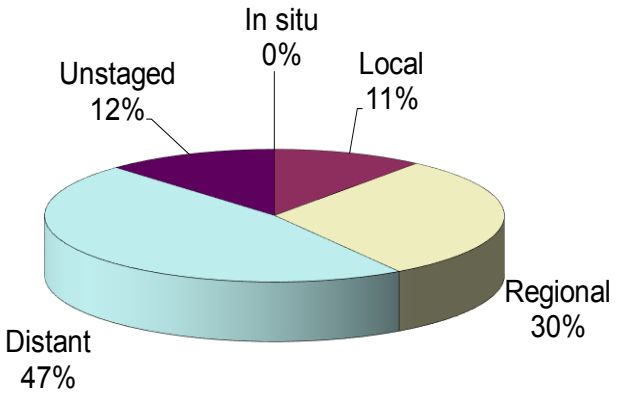
Pancreas

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	38	28	66
WY Incidence	11.4	7.9	9.7
US Incidence	14.1	10.7	12.3
# Cancer Deaths	33	31	64
WY Mortality	10.7	9.0	9.6
US Mortality	12.7	9.4	10.9

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



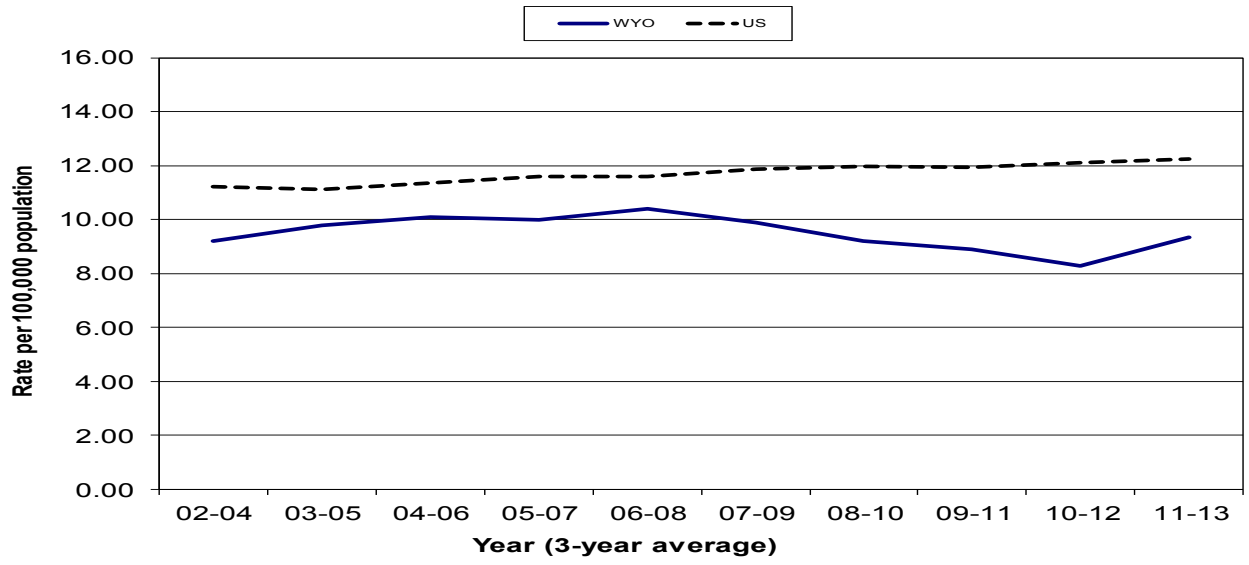
The incidence and mortality rates of cancer of the pancreas in Wyoming males, females and total population were all lower than the national rates. None of the differences were statistically significant.

After a prolonged decrease that started in 06-08 the trend for Wyoming shows a increase from 10-12 to 11-13, while the national rate shows a very small increase.

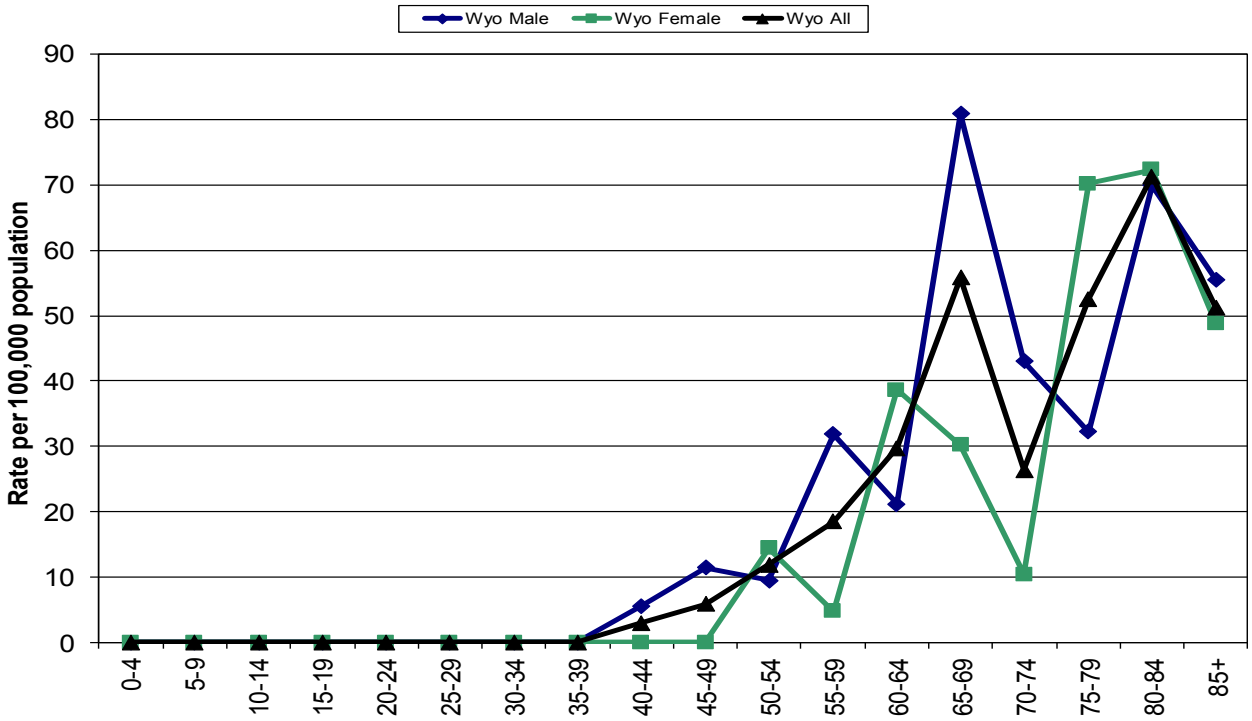
The percentage of cancer diagnosed at each stage were very similar to the percentages seen in 2012.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

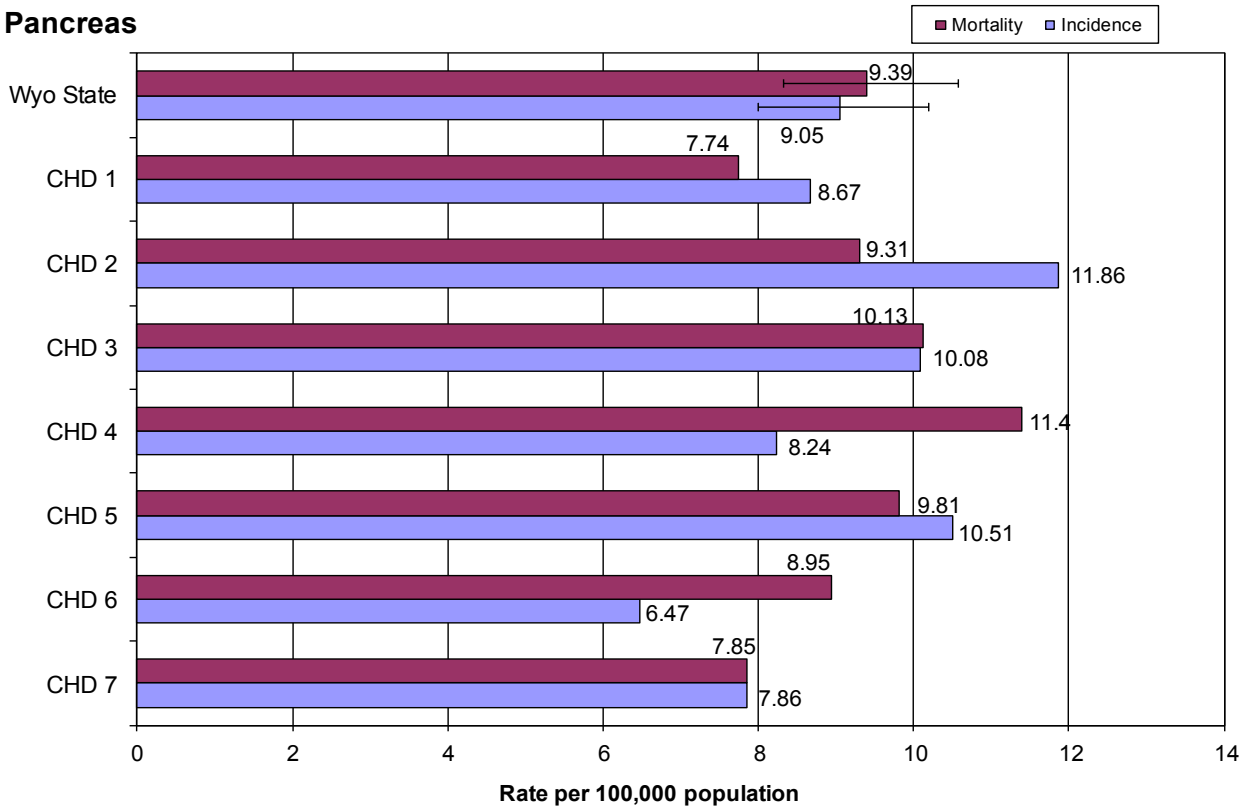
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



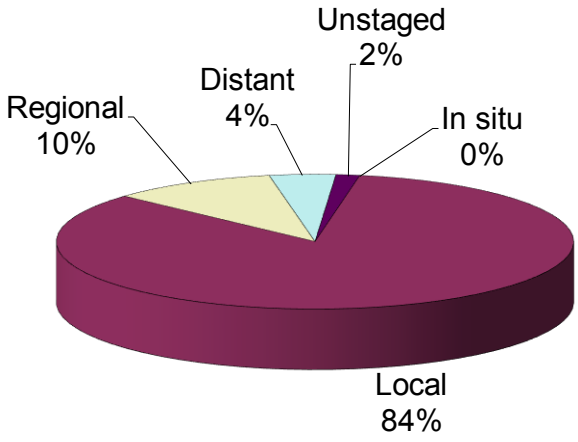
Prostate

Incidence and Mortality Summary

	Male
# Invasive Cases	338
WY Incidence	96.69
US Incidence	104.2
# Cancer Deaths	40
WY Mortality	15.6
US Mortality	18.1

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



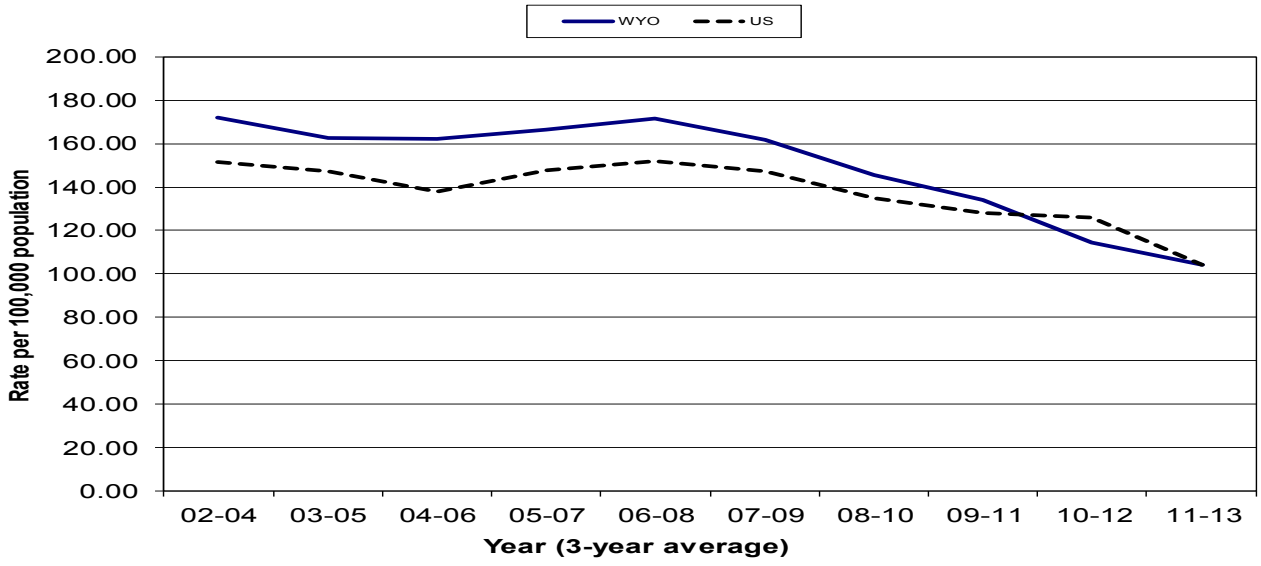
The incidence and mortality rates for prostate cancer in Wyoming males were both lower than the national rate; however, neither difference was statistically significant.

The incidence rate for both Wyoming and the U.S. show a continued decrease from 06-08.

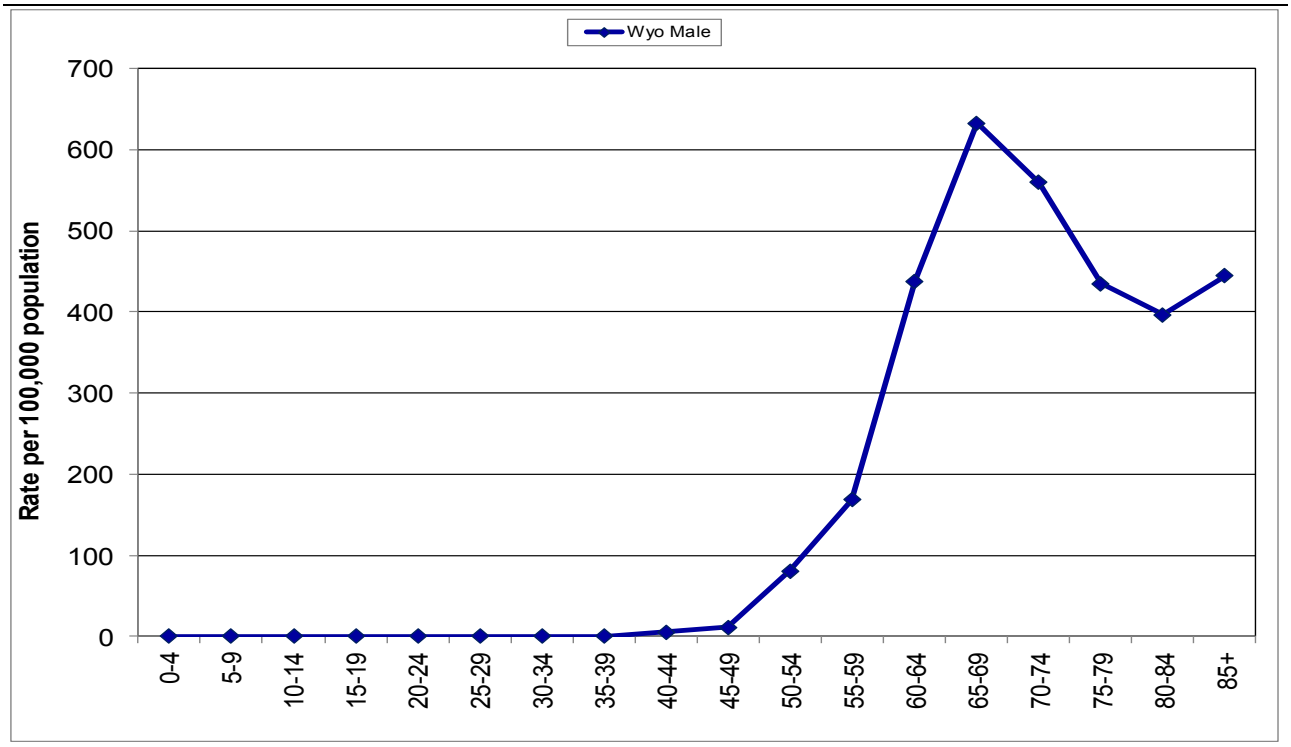
The percent of cases diagnosed at each stage in 2013 were basically the same as those from 2012.

The incidence of prostate cancer in CHD 5 was significantly higher than the state rate of 115.75 in 2013. No other significant differences in incidence or mortality between the state and CHD rates were found.

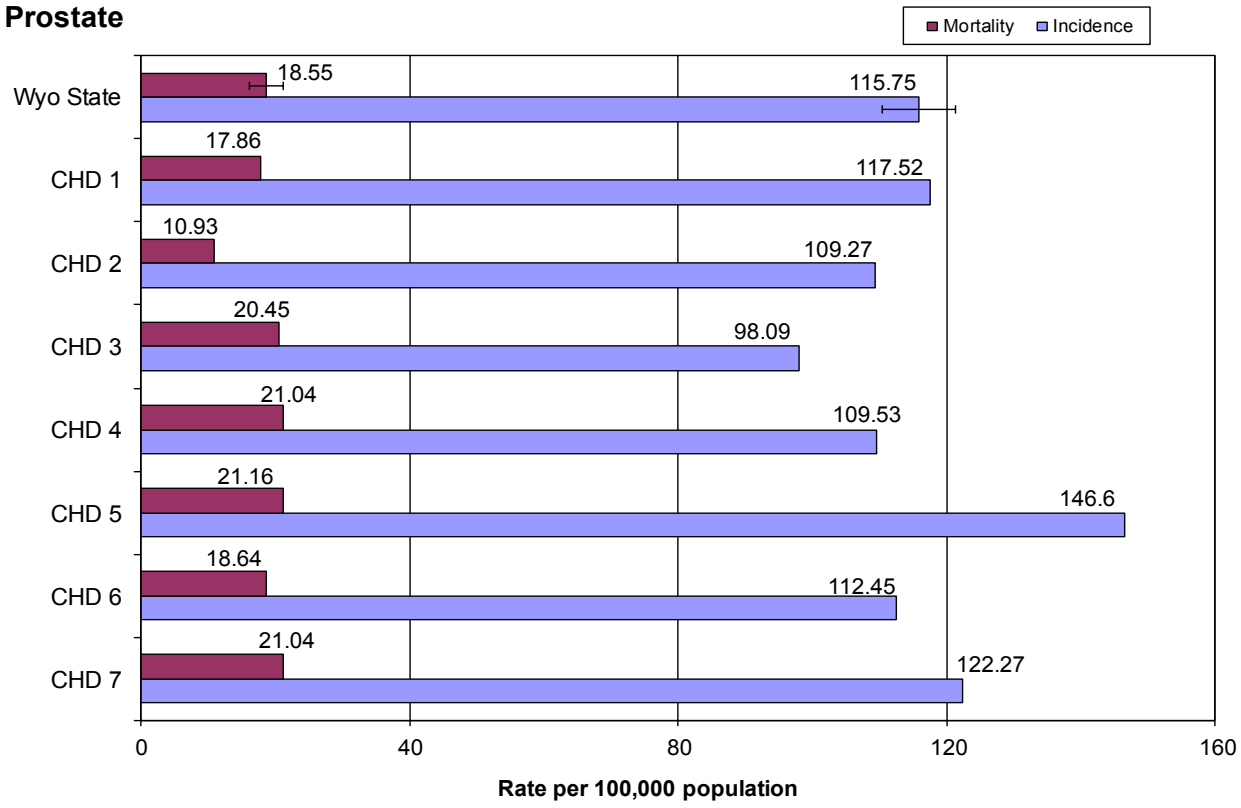
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



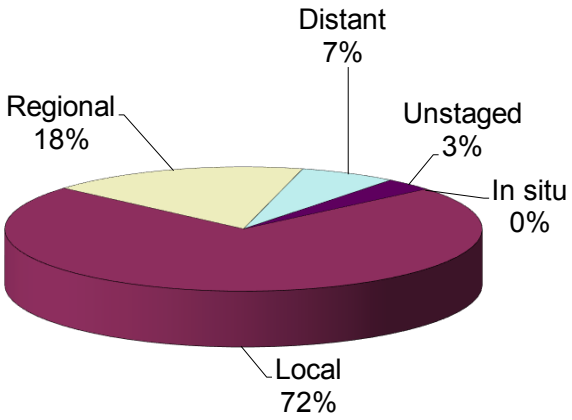
Thyroid

Incidence and Mortality Summary

	Male	Female	Total
# Invasive Cases	23	68	91
WY Incidence	7.2	21.9	14.3
US Incidence	7.6	22.6	15.1
# Cancer Deaths	0	1	1
WY Mortality	NC	NC	NC
US Mortality	0.52	0.45	0.48

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



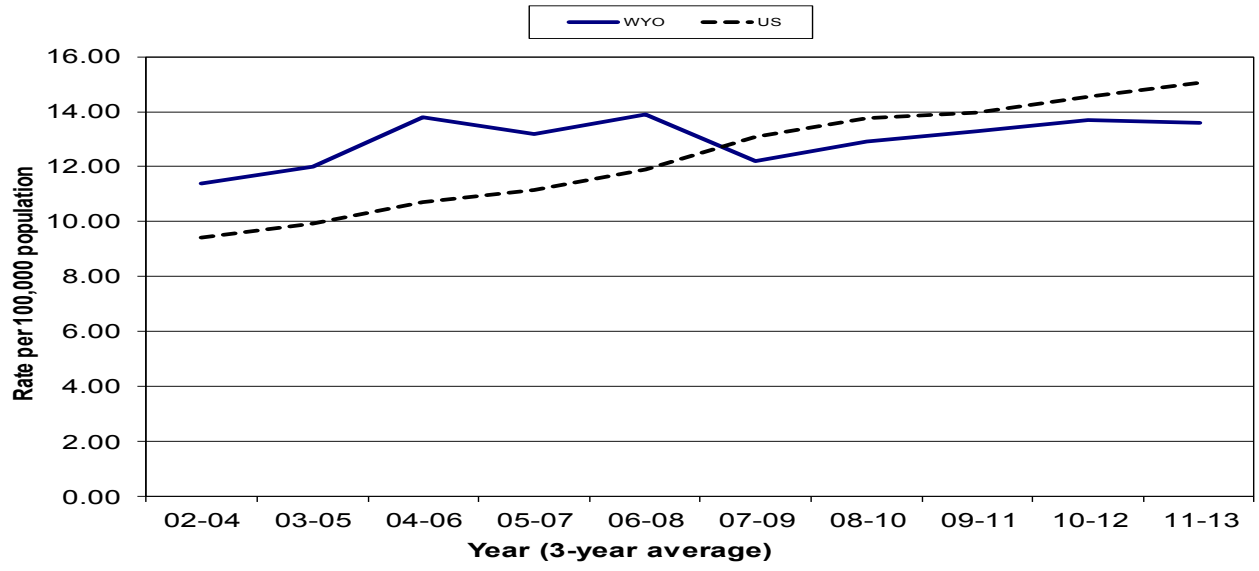
The incidence rate for thyroid cancer in Wyoming males, females and total population were all lower than the national rates. None of the differences were statistically significant. Due to low numbers of deaths, Wyoming mortality rates were not compared to the national rates.

The trends for thyroid cancer in Wyoming seems to have leveled off between 10-12 and 11-13, while the national rate continues to increase.

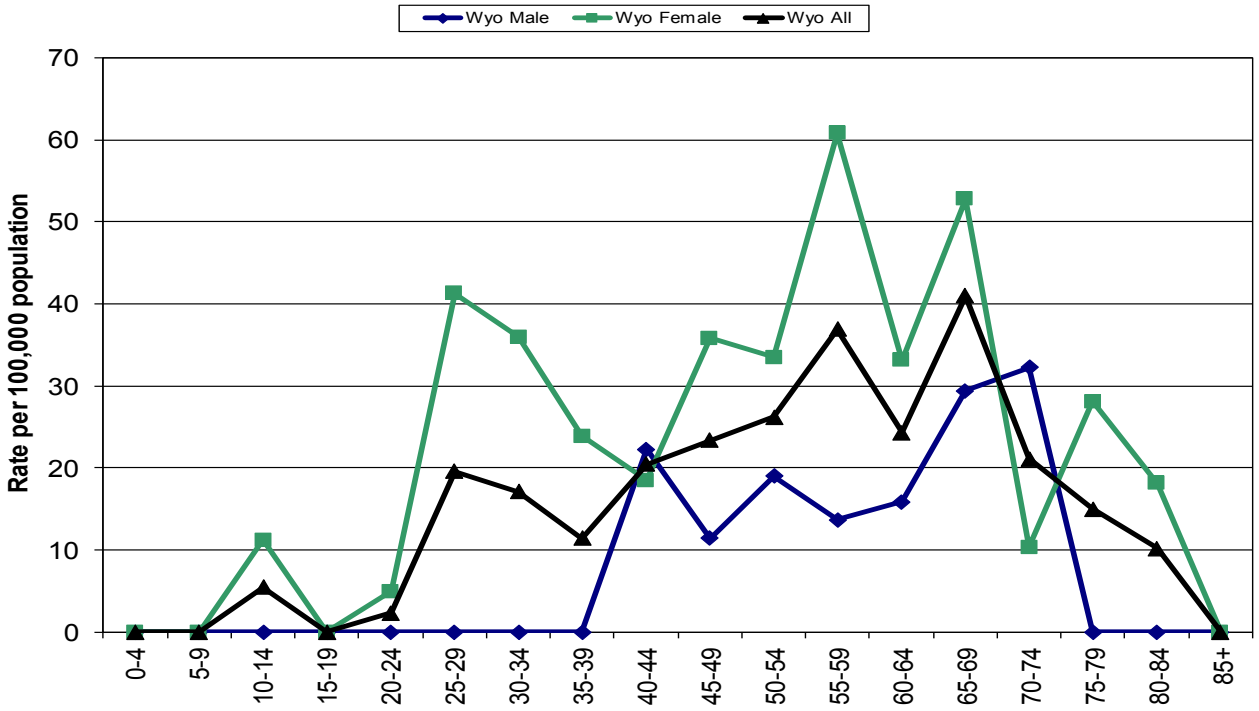
The percentages for each stage were essentially the same as those seen in 2011, with only the regional stage showing any real, but non-significant, change from 2012 (24%).

No statistically significant differences were found between the CHD rates and state rate for incidence. No region reported more than 5 deaths due to thyroid cancer from 2009-2013.

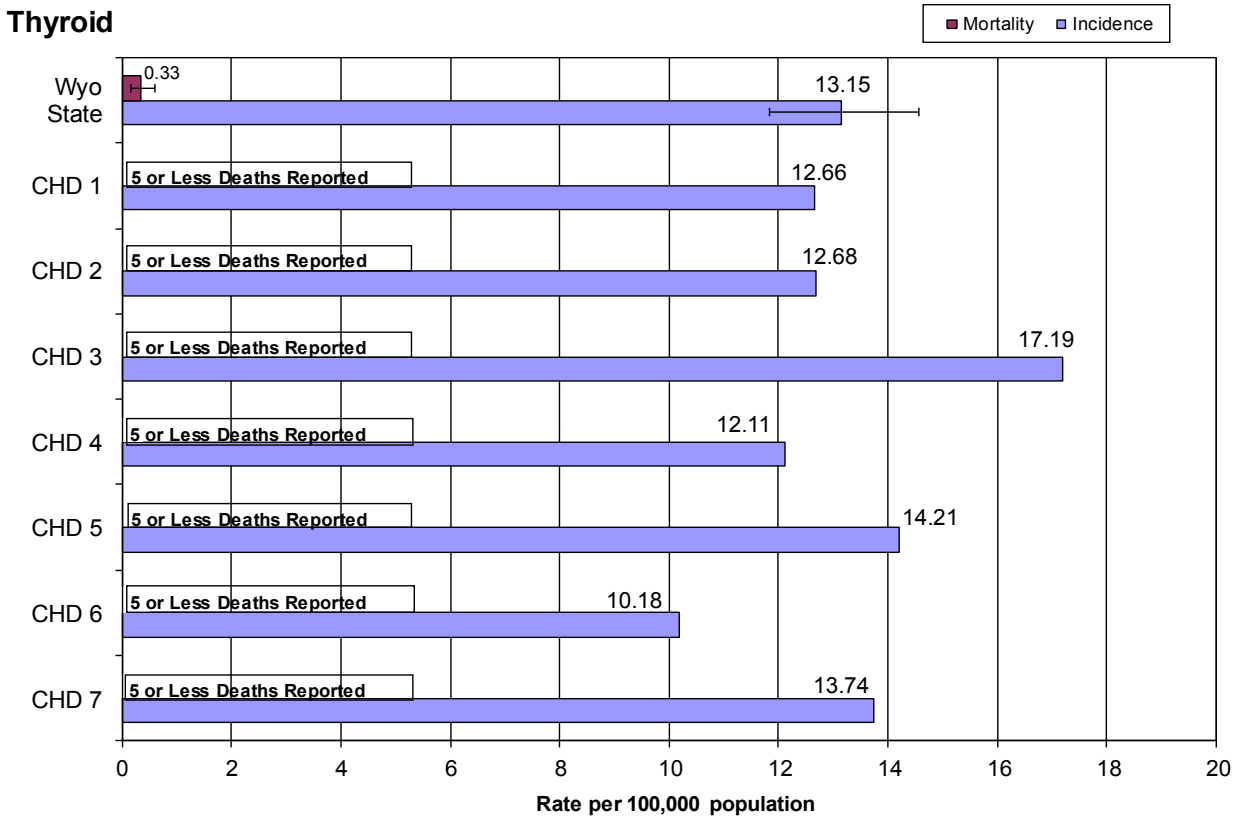
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



Uterine

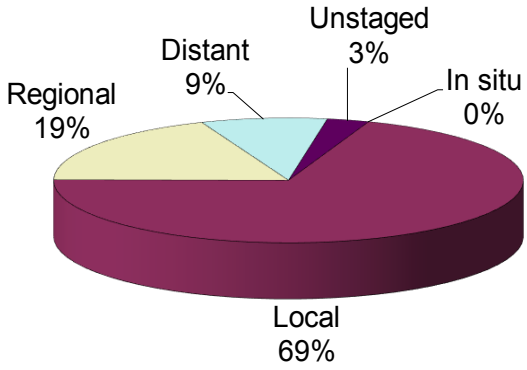
(Corpus Uteri + Uterus)

Incidence and Mortality Summary

	Female
# Invasive Cases	69
WY Incidence	20.8
US Incidence	26.8
# Cancer Deaths	6
WY Mortality	2.1
US Mortality	4.1

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



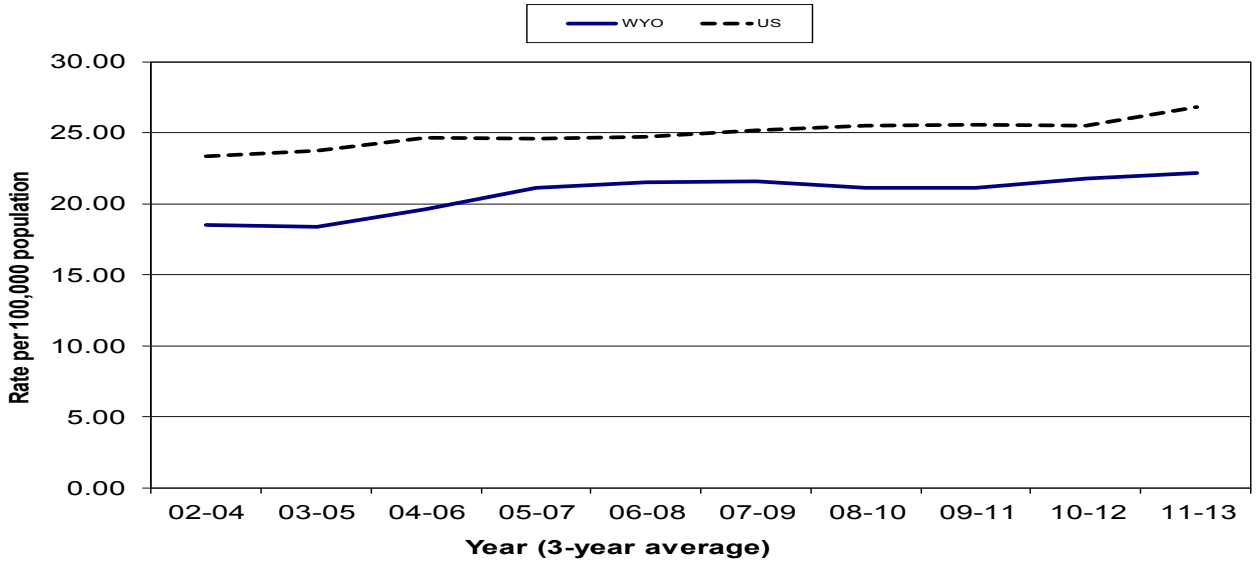
The incidence and mortality rates in Wyoming females for uterine cancer were both lower than the U.S. rates, though not significantly.

The Wyoming incidence rate shows a slight increase starting in 09-11 and continuing into 11-13, while the national rate shows a more pronounced increase between 10-12 to 11-13.

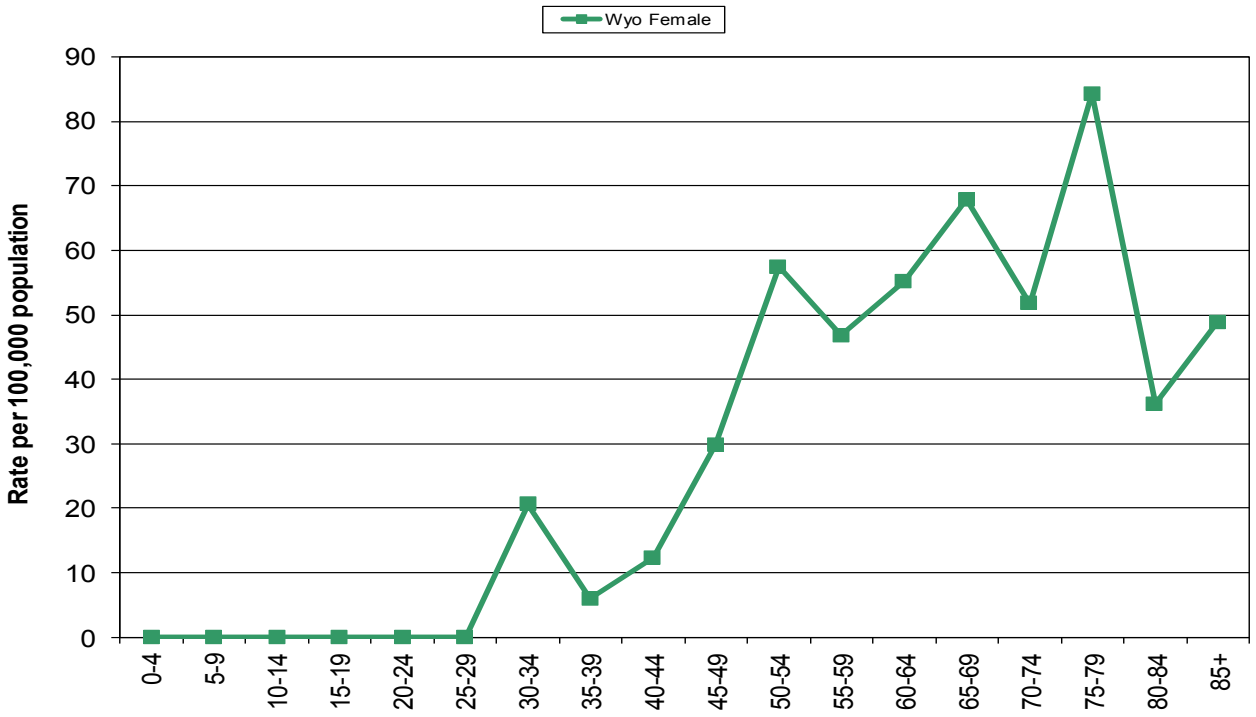
The percentage diagnosed at each stage in 2013 was very similar to 2012.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

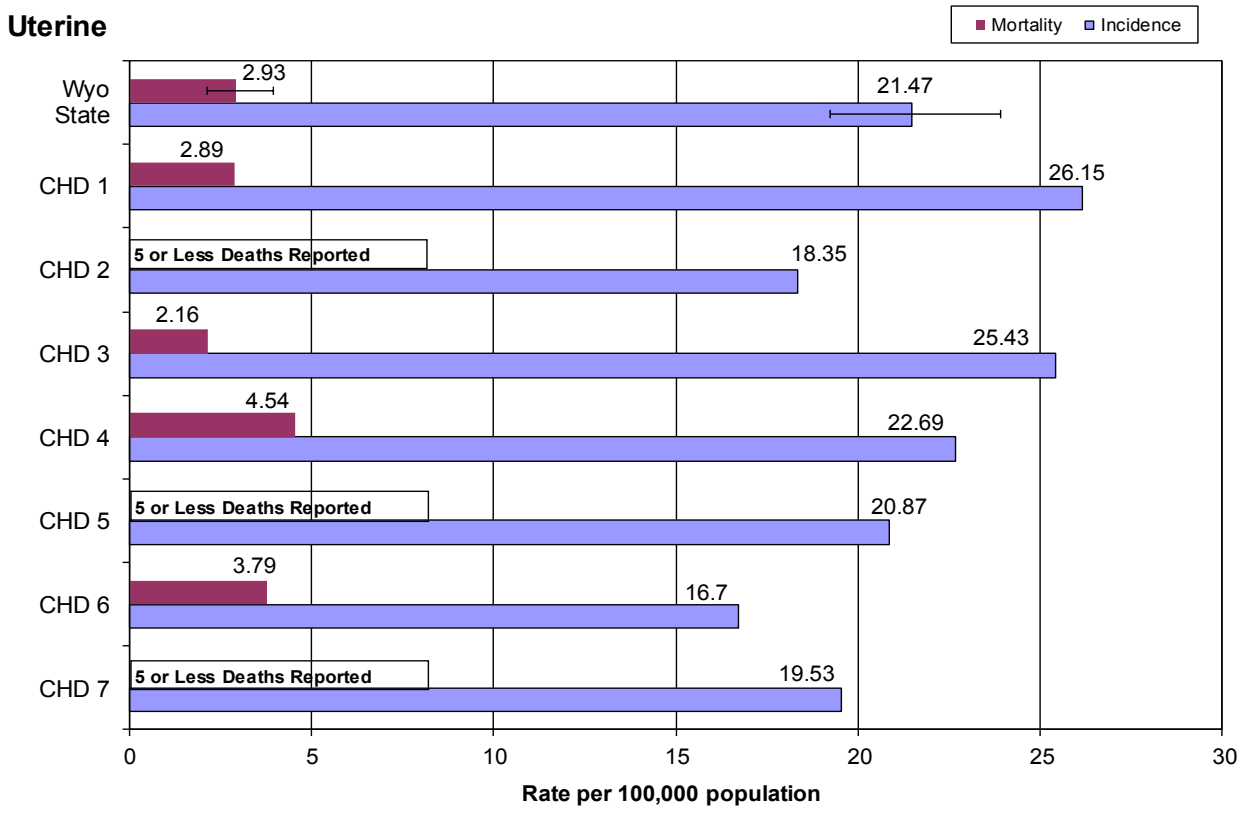
12-Year Incidence Trend



Age-Specific Incidence Rates - 2013



Cancer Health District Incidence and Mortality
5-Year Average, 2009-2013



Appendix A

References

Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2014 Sub (2000-2012) <Katrina/Rita Population Adjustment> Linked To County Attributes - Total U.S., 1969-2013 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2015, based on the November 2014 submission.

Wyoming Department of Administration and Information, Economic Analysis Division. Wyoming State and County Population. (http://eadiv.state.wy.us/eahome.htm)

Wyoming Vital Statistics Service, Wyoming Department of Health - (http://www.health.wyo.gov/rfhd/vital_records/index.html) (*Note: These data were supplied by the Vital Statistics Services, Wyoming Department of Health, Cheyenne, Wyoming. The Wyoming Vital Statistics Services was not involved in any analyses, interpretations, or conclusions).*

Age-Adjustment

Prior to data year 1999, the Wyoming Cancer Surveillance Program (WCSP) performed age-adjustment of cancer mortality rates using the 1940 standard population and a 10-year age group, or the 1970 standard population using 5-year age groups. Starting with the data year 1999, WCSP began using the Year 2000 standard population with 5-year age groups to calculate cancer mortality and cancer incidence rates.

The decision to use 5-year age groups was made to keep WCSP data calculations comparable to the national cancer reports published through SEER and the National Cancer Institute. The 5-year age group also enables cancer prevention programs to use Wyoming reports (e.g., Vital Records) as printed versus requesting specially calculated rates.

Age-adjusted rates should be used for comparative purposes only and should not be interpreted as the absolute risk of the disease or death. As can be seen in Chart A (below) and Chart B, (following page), the change in standard population affects the magnitude of the age-adjusted rates but not the trends of the rates. In general, the age-adjusted rate is only appropriate to track trends over time or to make comparisons among groups using the same population standard.

Chart A:

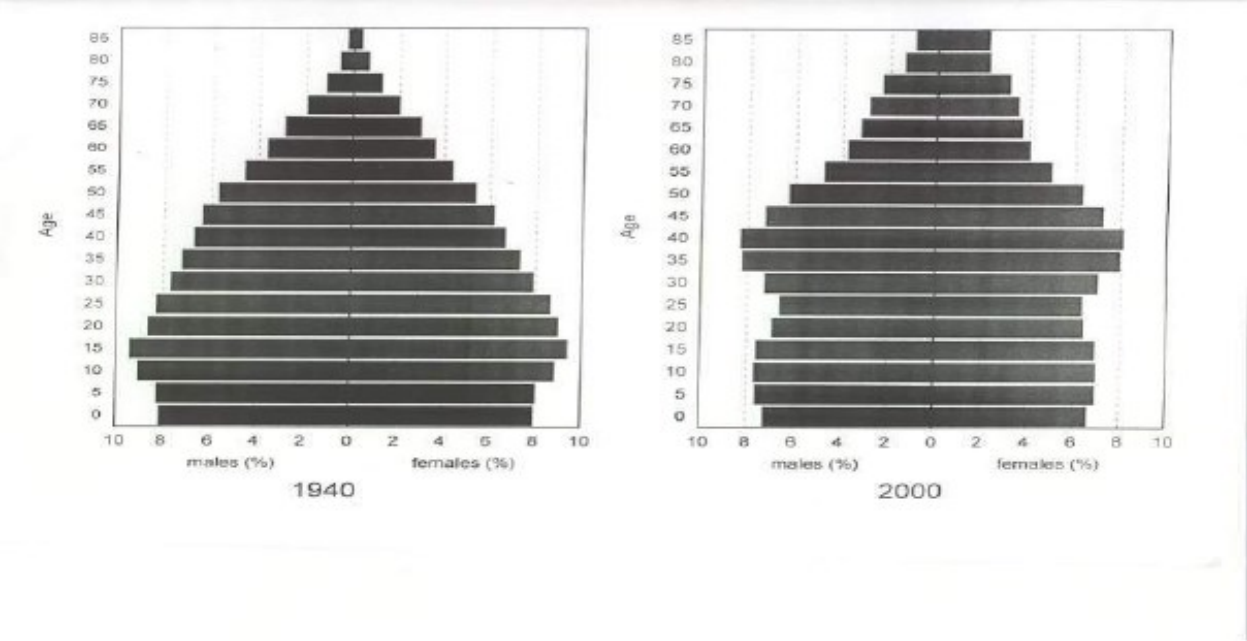
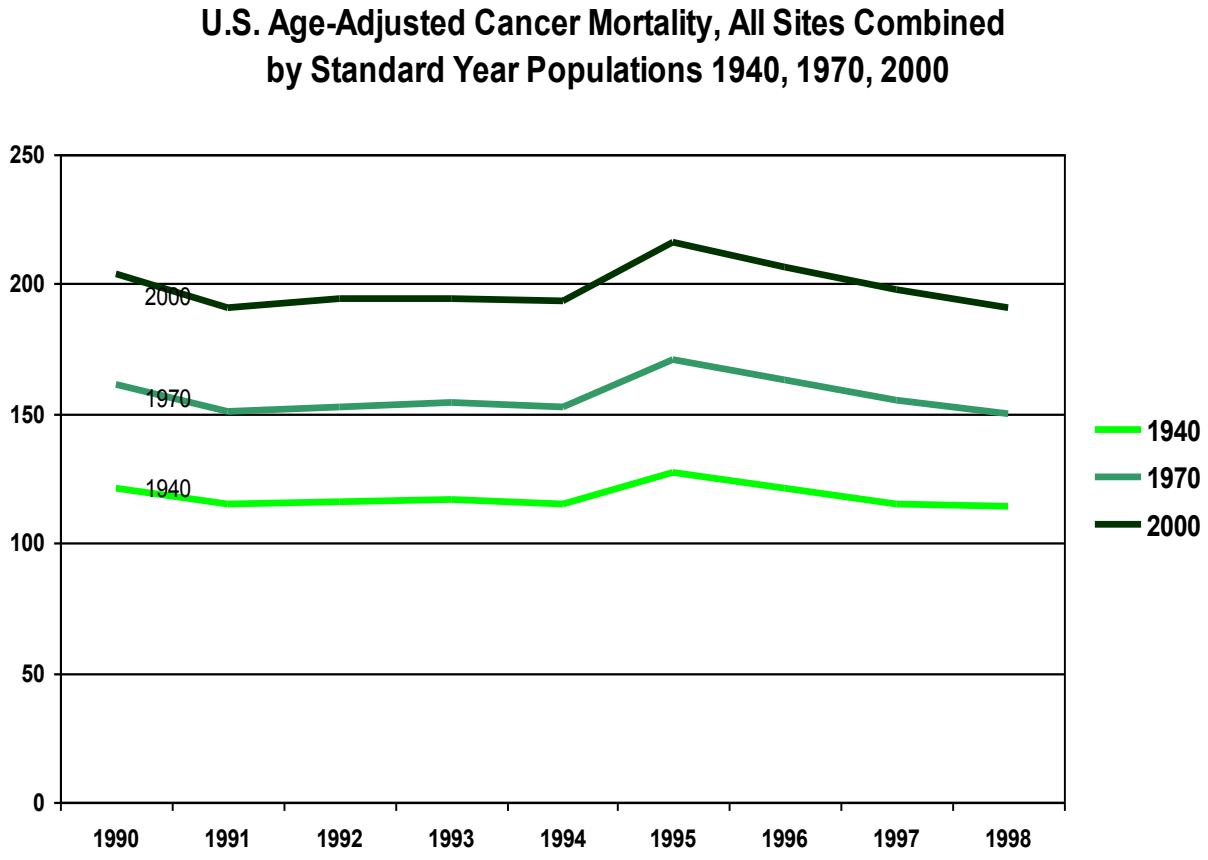


Chart B:


U.S. Age-Adjusted Cancer Mortality, All Sites Combined
by Standard Year Populations 1940, 1970, 2000
250
200
150
100
50
0
2000
1970
1940
1990
1991
1992
1993
1994
1995
1996
1997
1998
1940
1970
2000